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ORIGINAL ARTICLES.

THE RELATION OF MICRO-ORGANISMS TO SURGICAL LESIONS.

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The positive demonstration of the important factorage of bacterial growths in surgical lesions would seem no longer wanting. The recognition of this in the evolution of the systems of modern wound treatment is apparent.

The ill effects of the retention in wounds and cavities of the secretions contaminated with putrefactive bacteria have long been recognized, yet, it has remained for modern investigators to demonstrate that this ill effect is owing to germ development. It would have appeared easy of inference, that this was due in some way to atmospheric, and since the knowledge of the causes of fermentation, to a particulate organic infection, since very severe lesions, attended with abundant exudation, commonly recover without suppuration, when the skin covering the wound is unbroken. When these exudations undergo fermentation from the growth therein of micro-organisms, there is generally developed an entirely new and different class of symptoms, both local and constitutional.

I am ready to admit that many questions of great magnitude remain unsettled, that many subjects connected therewith are shrouded in doubt and obscurity, and that many fields of great promise remain yet for exploration. While this may temper our zeal and cause us to examine with double caution our premises and conclusions, it can not the less stimulate every thoughtful student to better endeavor and renewed effort.

Dr. Pilcher, in his recent excellent work upon "The Treatment of Wounds," defines aseptic wounds to "include all which are preserved from contamination by poisonous materials, whether such poison be applied directly to it, or be generated in it by the action of germs that gain access to it and find within it the conditions favorable for their growth. An aseptic condition in a wound may be obtained, either by the protection which the wound receives from the first against the access of any septic agent, or by the power of living tissues to resist and destroy septic agents, or by the application to the wound of substances which destroy them. Examples of the first class are presented in subcutaneous wounds, and in operative wounds which are inflicted with certain precautions; examples of the second class are seen in all open wounds in which union by first intention is secured, notwithstanding at the time of their infliction they were freely exposed to ordinary air; examples of the third class are presented by wounds in which the application of antiseptic substances has been successful in arresting the action of whatever septic agents may have previously gained access to them. Asepsis in a wound is of the highest importance. As long as it is maintained, no decomposition of the secretions of the wound takes place, no sloughing of killed or partly killed tissue occurs. When the proper cares to favor the nutrition of the wounded tissue are rendered, the healing of the wound progresses without pain, inflammation, or suppuration, and the least possible amount of cicatricial tissue is produced. To secure an aseptic condition in a wound, or to approach it as nearly as possible, is the first and most important indication in wound treatment."

I have myself elsewhere given the definition somewhat epigrammatically, as a wound surgically clean, and this for our present purpose would serve for the distinction between aseptic and septic wounds. Although seemingly lost sight of in many of the heated discussions upon this subject, the great fundamental factor of repair, the *individual vital force*, under conditions favorable, or otherwise, must ever hold the first place.

This, however thoughtfully considered, can never be fully resolved and in individual instances expressed in known terms, but remains somewhat as an X factor in the equation of life's processes, like the estimate of a business man's fortune, subject to modifying influences, both inherent and extraneous, and never to be fully inventoried, until the estate is finally settled. These varying factors may be catalogued, as race, age, idiosyncrasies, mental state, constitutional condition, disease, hygienic surroundings, etc.

Bioplastic or living matter possesses in itself, in greater or less degree, the power of resisting extraneous influences. This power to maintain the equilibrium of the active, functionating state of the organism, although possessed in a greater degree in the higher and more complex forms of development, is ever subject to the influence of its surroundings.

These must be the more important to the individual having suffered devitalization from injuries. Hence, the thought long bestowed upon the sanitation of the wounded, pure air, sunlight, careful cleanliness of person, clothing, room, etc. In a general way all these may be considered antiseptic conditions of the best character, yet pure air does not destroy the particles of infection, it only dilutes them. The sunshine and fresh air add to the bioplastic power of the tissues and give increase of individualistic function to resist the influence of deleterious agencies.

Time fails to pass even in rapid review the painstaking labors and researches for the ultimate causes of the changes which result in the disorders of repair. Most of us remember the long and seemingly fruitless discussion upon the question of spontaneous generation. The result of all this has been the final demonstration to the acceptance of the scientific world of the particulate theory of fermentation. We are especially indebted to the researches of Pasteur, Tyndall and Lister, for the setting at rest this vexed question, and to the latter, for the application of the deduction, that from such causes there resulted dangers to wounds and often to life.

The best methods by which to limit, lessen and control, if not to destroy the causes of these dangers was the self-imposed task of the enthusiastic innovator who, true to the divinity of his inspiration, has labored all these years with a singleness of purpose rarely surpassed.

The very meaning of the Greek word septikos signifies, that which *causes* putrefaction, and per consequent, antiseptic can have but the one meaning, that which is directed against the *causes*, not the effects of putrefaction. If it be true, that putrefaction cannot take place without fermentation, and fermentation is almost without exception caused by the growth of the lowest orders of the spore-producing plants, it would seem simple to formulate, that to the rôle of these micro-organisms should be ascribed the putrefactive changes and their deleterious consequences, incident to open wounds. Thus these organisms, so minute as to have escaped, in the main, the notice of most observers in the early days of microscopic training and study, or as at the most incidental and unimportant, have recently acquired an interest of primary character not alone to the surgeon and physician, but also in no less degree to the sanitarian.

The best illustration of an aseptic wound is one where nature herself has given it the safest protection from deleterious external causes, by keeping it still covered by the unbroken integuments. A subcutaneous injury has from time immemorial been recognized, even by superficial observers, as one of distinctive differences of danger and course of repair, from one where the injury is simply augmented by the laceration of the skin. None have contended that it was the simple factorage of broken integument that rendered the difference, but the causes have been more commonly sought in the various modifications induced by atmospheric exposure and consequent chemical changes.

Defects of bioplastic power, both constitutional and local, result in disorders of repair; defects of apposition prolong the process and make extra demands for reparative material; but in defects of *protection* are found conditions which produce arrest of reproduction and destruction of the adjacent tissues. It is clearly established that the disturbing elements arising from atmospheric contact come only from the organic, living particles which it holds in suspension (germs), and these spores under favorable conditions rapidly germinate. These minute organisms are seemingly omnipresent. They develop in the secretions which issue from the animal economy, infest the skin, literally devouring its waste, a hundred feasting upon a single epithelial scale, and they reproduce in myriads in the alimentary canal. Notwithstanding all this, these organisms are never found in the tissues of the healthy living body, and to a certain extent, these tissues are endowed with the power to resist their action and even to produce their destruction when brought in contact. It must be ascribed to this power in living matter, that the germs which have gained access to the tissues through a wound often do not develop, when speedy and complete approximation of the parts has been effected.

This has long been recognized as primary union in wounds, and has often been held in illustration that antiseptic methods were, in at least certain conditions, unnecessary, and that these minute beings, after all, could not be capable of such dire disaster as has been claimed to result from their development. Given a wound where approximation fails, and a fluid exudation fills a hidden recess, and here we find most favorable conditions for germination after such atmospheric infection, and a long train of deleterious results, frequently ending in death, ensues.

The form of germs which produce fermentation may be classified under three general types—the micrococcus, the bacillus, and the yeast cell. Varieties known as bacteria of different forms may be referred to one or another of these types. The yeast plant only develops in the fermentation of saccharine materials, and plays no part in surgical affections. Bacilli and micrococci require albuminoid compounds for their development. Both forms are usually found in open wounds. When the micrococci only are present, we have decomposition without odor, but the development of bacilli is always accompanied with odor more or less fetid. According to Ogston, the occurrence of a putrid odor is absolutely sure to indicate the presence of some of the varieties of the rod-bacteria. According to Cheyne, the more putrid the discharge the more numerous and smaller are the bacilli. These organisms have less inherent vitality than micrococci. They limit their invasion to material already devitalized, and are never found in the living tissue. These bacilli are comparatively easily exterminated from a wound, by the removal of the decomposing material necessary for their consumption. They are also quite readily acted upon by the various germicides and destroyed.

The spherical organisms, micrococci, on the contrary, are much more difficult of extermination. They reproduce in chains and masses, and in the latter form are found frequently colonizing in different parts of

the body; thus they not infrequently obstruct and dilate a capillary vessel, and cause widely disseminated abscesses, as in pyæmia. They vary greatly in number. Ogston estimated that in one specimen of pus one cubic millimetre contained 45,000,000, while two other specimens of the same bulk contained less than 1,000.

They are cultivated without the production of any especial odor, and generally their presence in a wound is not indicated by any change perceptible to the olfactory sense, except perhaps a slightly sour smell. There can be little doubt that there are varieties of micrococci identical in appearance, as exhibited by any means yet devised, but which nevertheless possess extremely different capabilities and characteristics. Some are comparatively harmless, others in the highest degree virulent.

Sternberg states: "Some are pathogenic, others are not; some develop in the blood of certain animals, others will not. Different species multiply in different media, and are destroyed at different temperatures. A nutrient medium which has been exhausted for one micrococcus may not be exhausted for another."

Cheyne describes and figures micrococci developing in wounds in large numbers without causing any serious injury. These varieties, when injected into the bodies of animals, produce entirely different results. Some develop and cause local abscesses, or a rapid and fatal blood-poisoning, while other specimens scarcely produce even any local suppuration. The inflammation and subsequent blood changes are usually far more active in the pus from open wounds than from acute abscesses.

According to Ogston the grouping of the micrococci seems to modify the result, and the chain form rarely if ever passes into that called zoöglea or masses. In the erysipelatous type, affecting the lymphatics, the chain form predominates, while in suppurative inflammation in the tissues the forms are grouped.

Fehleisen, of Berlin, published last year the result of his studies upon erysipelas and demonstrated the active factorage of the form of micrococci developing in chains in erysipelas. He not only examined them during life, but he cultivated them and with equal success inoculated the cultures, producing the disease in its typical forms in man and animals. I have cultivated the micrococcus of erysipelas from several sources. It reproduces in marvellous numbers with extreme rapidity. My inoculation experiments failed, but they have been too limited to be of any practical value.

The researches of Koch, Pasteur, Ogston, Cheyne, Sternberg, Klebs, and others scarcely less known, can only be referred to, but all more or less clearly point to the demonstration that there are different varieties of micrococci, not distinguishable in form, possessing widely different characteristics. The origin of the micro-organisms found in certain locations presents a problem of very difficult solution.

A few months since, a woman in excellent general health felt something, as she expressed it, "give away in the bowels." Peritonitis rapidly developed and death supervened in forty hours. The autopsy showed an ovarian cyst, not larger than an egg, partially empty. There were several pints of a slightly opalescent, flocculent serum in the abdominal cavity. The fluid was swarming with a large bacillus which multiplied with extraordinary rapidity in culture tubes. This bacillus was also found in the contents of the cyst. The cyst was evidently an old one, with a wall thick and friable.

Only a few weeks since, an ovariotomy furnished this interesting history: I removed a compound cyst with multiple adhesions. The cysts were thin-walled and several were broken in the removal. The cleansing of the peritonæum was made with care by sponges moistened with 1–1000 bichloride of mercury. Examination of the urine previous to operation gave no evidence of renal disease. Albumen with casts appeared in the urine at the close of the second day. Suppression of urine followed and death ensued between the third and fourth days. At autopsy there was no evidence of peritonitis, only a very little reddish serum in retro-uterine pouch, which contained active micrococci. The kidney was in a state of acute parenchymatous nephritis and the capillaries were filled with masses of micrococci. The tumor had been preserved in a 1–1000 solution of bichloride of mercury and in a number of the unopened smaller cysts were numerous micrococci.

The inferential evidence that the patient's death was due to infection from this source appears very strong.

Dr. Drysdale, of Philadelphia, who has very probably studied the morphological conditions of ovarian fluid more carefully than any other, writes me, "he has no recollection of finding micro-organisms in ovarian fluid uncontaminated by atmospheric exposure." It is equally difficult to explain the origin of the micrococcus of pus uniformly found in acute abscesses where the integuments covering them are still unbroken. The evidence is demonstrative that the blood of healthy animals does not contain micro-organisms. In a series of abscesses, eighty-two in number, examined by Ogston with due care, no organisms were found in thirteen purely chronic. In four subacute and sixty-five acute abscesses micro-organisms were found. They were in chains, zoöglea masses, and in groups of three or four.

I have more ordinarily found them in short chains, twos or fours, or groups of three or four, rather than in zoöglea masses. It is not known if the forms presented are of significance, very probably only showing the forms of growth by subdivision.

Although much remains to be studied and settled beyond dispute, the proof, that micrococci are the essential cause of suppuration, is rendered very strong by the results of inoculation, by which it has been shown that pus devoid of micro-organisms, for example, that subjected to heat or an efficient germicide, or the pus from a chronic abscess, is innocuous when injected into the tissue of animals, while pus containing micrococci, even in minute doses of a minim or more, invariably occasions well-marked disease. Interesting as is the subject we must not pursue this line of inquiry farther, simply stating that experimental proof

is constantly accumulating to show that the inflammatory and other changes which ensue in wounds, producing often the most serious and dangerous consequences, are with few exceptions the result of the vital activity of new organisms.

The result of the observations and experiments of Ogston has led him to conclude that septicæmia, pyæmia, and septic pyæmia are one and the same disease, and that their sole and invariable cause is micrococcal poisoning.

Belfield, in his interesting lectures given last year in New York city, sums up the question as follows: "A review of the evidence already considered shows, then, that infectious diseases, identical in clinical and anatomical appearances with the various forms denominated septicæmia in man, have been induced in the mouse and rabbit by inoculation with animal tissues in various stages of putrefaction; that the resulting infection is just as certain if the putrid substances be previously boiled and thereby deprived of living organisms. On the other hand, it is certain that *per se* innocuous culture fluids, infusions of beef, etc., acquire after inoculation with minute quantities of infected blood or tissue, the same septic properties, provided such blood or tissue contain living bacteria; it is further certain that this multiplication of the septic substance in such liquid is a concomitant of the vital action of the organisms therein contained; it is further demonstrated that these organisms can and do not alone multiply in the septic material, but, when isolated by successive cultures from all the accompanying animal tissues, induce independently fatal infectious diseases. The same principle, vital activity of bacteria, pervades all these phenomena; for the artificial induction of septic diseases has been, in all these experiments, originally accomplished by the incorporation into the animal of putrid tissues, with or without bacteria. Now, since putrefaction must be regarded, in the present state of our knowledge, as impossible without the presence of these organisms, it is evident that sepsis, putrid infection, was in every case due, directly or indirectly, to the action of bacteria; since even the boiled substances used by Panum and Rosenberger, and the sepsin obtained from rotten yeast by Bergmann and Schneideberg, had acquired their septic properties through putrefaction; *i. e.*, through the action of bacteria. Hence we are logically driven by all this work, to the belief that septicæmia implies the introduction into the animal, either of living bacteria, or of a substance which has acquired noxious properties through previous vital activity of these organisms."

The most valuable of recent contributions upon the relation of micrococci to wounds, abscesses, and septic processes, is the report to the Scientific Grants Committee by W. Watson Cheyne and published in the British *Medical Journal* during September and October, 1884. I should do the subject injustice without giving briefly his conclusions:

1. "There are various kinds of micrococci found in wounds treated aseptically, differing markedly from each other in their effects on animals. They agree in growing best at the temperature of the body, and in causing acidity and sweaty smell in the fluids in which they grow. The experiments show that cultivations may be carried on in fluids with accuracy, provided the precautions mentioned be observed.

2. The micrococci tested in these experiments grew best in materials exposed to oxygen gas. They grew only with difficulty in the absence of oxygen. Eggs were not good pabulum.

3. Their effect on animals was not altered by growth with or without oxygen.

4. The effects of these micrococci on rabbits and man were not similar, some of the most virulent forms for rabbits causing no deleterious effect in wounds in man.

5. The kidney is apparently an important excreting organ for organisms.

6. Organisms not capable of growing in the blood may yet cause serious effects by growing in the excretory canals. This may explain some cases of pyelitis.

7. Where an organism is not markedly pathogenic, it may be necessary to introduce a large quantity before morbid changes are set up.

8. Supuration is not always due to micrococci, it may be caused by chemical irritants, such as croton oil.

9. Micrococci are always present in acute abscesses, and are probably the cause of them.

10. In some cases, the micrococci are the primary cause of inflammation and suppuration, as in pyæmic abscesses; generally, however, they begin to act after inflammation has been previously induced.

11. This inflammation may be caused by an injury, by the absorption of chemically irritating substances from wounds, by cold, etc.

12. There are several different kinds of micrococci associated with suppuration.

13. Micrococci cause suppuration by the production of a chemically irritating substance which, if applied to the tissues in a concentrated form, causes necrosis of the tissue, but if more dilute, causes inflammation and suppuration.

14. The conditions in wounds and abscesses are not the same, inasmuch as in the former there is opportunity for mechanical and chemical irritants to work.

15. There is no reason for denying the existence of "antiseptic suppuration."

16. Tension may also cause suppuration, but it is perhaps most frequently aided by the growth of micrococci. These organisms need not be of a very virulent kind. It is also probable that the products of inflammation are themselves irritating and capable of exciting or keeping up inflammation.

17. The micro-organisms of septicæmia, of pyæmia, and erysipelas, are different from one another and from those of abscesses. In erysipelas, the micrococci grow in the lymphatic spaces. In pyæmia, they grow in the blood to form colonies and emboli. In septicæmia, they may only grow locally, the symptoms being due to the absorption of their ptomaines; or if they grow in the blood they do not form colonies and emboli. Septicæmia may also be due to other organisms besides micrococci.

18. There are no facts to support the view that it is the same micrococcus which, under different conditions, causes these various diseases.

The experiments of conversion of innocent into malignant forms, and *vice versa*, are unreliable.

In a previous contribution, "Upon the best Methods of Wound Treatment," I endeavored to show that the best methods were those based upon a broad, comprehensive knowledge of a scientific character, including such factorage as we have here under discussion, and that the too commonly held ideas of antiseptic surgery, as consisting of carbolic acid applied as spray or in dressing, were not only superficial and misleading, but distinctly incorrect and injurious. Such imperfect knowledge of any scientific truths must have its fruitage only in evil, leading to a distrust in methods, at the best only half understood, and the results obtained, where protection in wounds has not been secured, are falsely reported in proof that antiseptic surgery is only the fashion of the hour, an exploded theory which should be relegated to the long list of isms and pathies which have for so long justly placed our profession in derision.

A CASE OF HEMIPLEGIA.

RECOVERY—DEATH NEARLY FOUR YEARS LATER FROM ANEURISM JUST ABOVE THE ARCH OF THE AORTA—AUTOPSY REVEALS THE SITE OF THE OLD LESION IN THE MIDDLE OF THE LEFT HALF OF THE CORPUS-CALLOSUM.

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Read before the Cambridge Society for Medical Improvement.

I was called January 26, 1879, to attend J. T., (colored) aged 64 years. He had been a slave in Virginia, but escaped when quite a young man. His health had always been good; he was a laborer; he was married many years ago, but his wife had had no children by him. He could not remember of ever having been sick, but was a very hard-working man, often engaging in heavy work such as he obtained at wharfs. He was also engaged often in moving furniture. For the most part he was accustomed to walk two and three miles to and from his work instead of riding, and this practice he continued daily.

When first called (January 26, 1879), I learned that the patient that morning arose early and had been to a baker's shop about a mile from his house. On his return he went into his basement for coal, and there was heard to fall upon the floor. His wife quickly descended, and there found him in a "fit," snoring and breathing heavily, and he was unconscious. I was immediately summoned, and I reached his house before 10 A. M. Patient was in bed, still unconscious, and the right pupil very much contracted (small), while the left one was largely dilated. The muscles of the face, throat and neck of the right side were affected. Deglutition was somewhat difficult, that is, in attempting to swallow water or other liquids. There was preternatural heat about the head. There was some irregularity—or some tumultuous action in the upper part of the chest in front, though no distinct murmur or souffle was there observed in connection with the heart's sounds. Pulse full and somewhat increased in frequency, and both at the wrists were alike. Temperature did not vary much from normal. The patient had vomited after he was first taken, although for the most part insensible. The patient remained unconscious the greater part of that day, but gradually returned to consciousness. The right arm and leg, as well as the right side of the face, were hemiplegic.

The right leg and arm at first were completely useless. The patient was kept under observation until March 11 following, when he was able to go about with the aid of a cane, although the right side remained affected for quite a while. The leg, as is usual in such cases, recovered much sooner than the arm. The arm, however, the following summer greatly improved. He became anxious for something to do, so he had a small store built on his ground near his house, where he sold small articles, such as fruit, candies and some groceries. After a year or so he had so far recovered the use of his arm and leg as to be able to attend to his regular work as laborer or jobber about wharfs and stores. During the past year he had been very well, often walking in and out of Boston as heretofore, and being about all day at work, returning late in the afternoon or evening, not complaining but seeming to be in good health, except the difficulty in his chest; sometimes urgent breathing, shortness of breath, but he was able to lie in bed, but was obliged to lie upon his left side altogether. During cold weather he suffered considerably from coldness of his arm, and occasionally there was numbness of his right leg. These symptoms never prevented him from attending to his regular duties connected with his occupation. Friday, October 6, 1882, he had been engaged in removing heavy goods, such as large boxes and a stove, from an apothecary's store; he had lifted many boxes and other heavy weights into an express wagon. He then ate his dinner, which he carried with him. Soon after, as he began to work again, he was noticed to fall and become unconscious. A bucket of cold water was dashed upon his head and face; he then vomited what was in his stomach. He was immediately convulsed. Some stimulant was given him, which he swallowed or was poured into him, but the amount given I learned was not large. I might here say that the patient was always a temperate man, and was averse to stimulants of all sorts. He was immediately brought home to Cambridge, where I saw him early in the afternoon. He was in great measure unconscious; was lying on his back in bed. His respiration was somewhat labored, but not distinctly stertorous. Pulse at the wrists (both) quite regular and full, but seemingly slightly compressible, or more so than normal, partaking of a vibratory or undulating character, but this feature was not a marked one. There was no real thrill nor hardness; nor was the pulse

intermittent, but were alike. Both pupils were small, the right one a little larger than the left; but as the arcus in each eye was so marked, the shade of face obstructing, and the eyelids inclined to be closed, it was not easy to observe their true condition, for in attempting this he was disturbed, then the pupils grew larger and varied. He was sensible to the touch or pinch upon the skin; he would move either arm or leg when pinched or pricked. He could not at first swallow, or only very imperfectly. The left side of his mouth and face was affected, and he inclined his head to the left. He was said to have borne some weight upon both legs when taken out of the carriage when brought home, while being brought into his house.

He frequently put his right hand to his head as if in pain, but did not move his left one. That evening he was able to swallow a little, but not much afterwards. Next morning the left side showed signs of paralysis, he did not move the left arm or leg, and at length he did not respond to the prick or pinch made on that side while sensible to that test when made on the right side. The patient soon became more comatose, his respiration stertorous, more rapid or frequent (44 per minute) and labored, and marked dullness on percussion extending over the greater part of the chest anteriorly, attended with subcrepitant râles during the inspiratory movement, resembling pneumonia in its earlier stages. Micturition occurred at regular intervals and good action of the bowels was obtained by the administration of a few drops of croton oil upon the tongue; temperature varied little from normal. The pulse at last became irregular and the patient died seventy hours after the attack commenced. Autopsy of body 24 hours after death. Present, Drs. Clarke and Holt. Found more blood than usual in vessels of scalp; considerable dark blood flowed from inside of the skull on removal of calvaria; the dura mater was more adherent than normal, but this membrane presented no unusual appearance. There was a little appearance of watery effusion of the pia-mater, or along the line of the vessels and it was there a little opaque, but otherwise this membrane was clear and transparent. The vessels at base of the brain were empty; they were somewhat atheromatous in spots. No unusual amount of fluid in the ventricles. The cerebrum was a little softer on the right side; the vessels contained not so much blood. There was a brownish-yellow spot—darker in the centre, in the middle of the left corpus callosum. This was about one-half inch in diameter. It was much harder than other parts of the corpus callosum. This spot must have been the site of the old hæmorrhage or clot which occurred January 26, 1879. The other great ganglia were normal in appearance. On opening the cavity of the chest a large bunch was discovered immediately behind the sternum. This was so soft that it was torn open on removal. This proved to be the arch of the aorta largely dilated, to the inside of which was attached a large clot, rounded, firm, and about one and one-half inches in diameter. This was split in two parts but the parts were hanging together. There was a recently formed clot extending to the vessels of the neck. Both sides of the heart contained fluid blood, and a large amount of blood flowed from the cut ends of the vessels. This organ was in every way healthy. The lungs were of a dark bluish-black color, except in front, where they were paler. Both were slightly adherent to the pleura at the top. Section showed these organs engorged with blood and very œdematous. There was a large cyst on the left kidney. The cut surface of the kidneys showed a slight granular appearance, otherwise normal. All of the other organs not described were normal. In recounting the symptoms and history of this case several important features present themselves for our consideration. First, the serious or dangerous character of the attack, which was a hemiplegia and which occurred nearly four years before his death, and from the effects of this attack it would seem that he entirely recovered were it not for the coldness and numbness of the arm and leg occasionally experienced.

On more careful inquiry into his mental condition we learned that certain peculiarities appeared that were not noticeable before; such as moroseness, a certain irritability of temper and dread of coming to want, and the like, though he made the best possible provision for his widow in case of his death. Reference to the record of the autopsy shows that the brain (middle of the left corpus callosum) had sustained a lesion from which he had not fully recovered. It is not impossible that the presence of such an aneurism may have contributed somewhat to this mental change. The next important feature in the case was the existence of so large an aneurism which gave him so little inconvenience, not materially interfering with his daily avocation until the day of the fatal attack. Another interesting phase in this case was the nature of the symptoms which characterized the last attack. This attack was accompanied by hemiplegic symptoms, though the autopsy revealed no direct lesion of the brain to account for such phenomena. Undoubtedly it was in consequence of the plugging of the vessels of the neck, and more especially above the innominata (in the right carotid artery), cutting off all supply of blood and thus starving, as it were, the brain on that side. This condition would more likely result in a man of his age, where anastomosis is not so free, from the obliteration of capillaries, and also from organic changes in the small arteries and in the arterioles. Such a condition, as Reynolds has mentioned in his System of Medicine, is more likely to occur to those advanced in age. Another interesting element in the case was, that though the right carotid was occluded, the subclavian given off from the innominata escaped the lesion, and the only evidence at either wrist (and I examined the pulse of each) was a sort of vibratory or undulating movement and the pulse a little more compressible than the normal, but, as already stated, this was not at first very marked. The localization of the old lesion which was in the middle of the left side of the corpus callosum is worthy of consideration in this case. Most authors speaking of the parts of the motor and sensory tracts where lesions from cerebral hæmorrhage induced hemiplegia, make mention

usually of the corpus striatum, thalamus opticus, crus cerebri, pons Varolii and the medulla oblongata, and occasionally the cerebellum. The corpora striata of course being the superior ganglia of the cerebrum and the thalami optici the inferior cerebral, these ganglia form part of the floor of the central cavity of the lateral ventricles, while the under surface of the corpus callosum forms the roof of those ventricles. Thus the corpus callosum is situated much higher in the hemispheres than the other parts or the ganglia mentioned, and not only above the part where the great decussation takes place, but above where the cranial nerves emerging from the sensory-motor tract have special points of decussation.

We might remark here, that there were no indications that the facial (portio dura) and the hypoglossal (ninth pair) of nerves of the left side had suffered, as there was no paralysis either of the left side of the face or of the side of the tongue, and the autopsy revealed that there was no injury of the pons or ganglia below the decussation. Another point of physiological interest is that, though the corpus callosum may not be a ganglionic centre, yet the nerve fibres after their decussation in the pons and other ganglia of a higher level, must preserve their integrity and continuity, as they enter and become so incorporated as to characterize this peculiar body before they take a radiated course towards the cerebral surface to become invested with cortical or gray substance. An interesting point in the case was that the first paralysis could not have been due to lesion of the gray or cortical substance, as the corpus callosum is composed of nerve fibres like those of the medullary substance. A few grayish streaks and thin deposits of gray substance, consisting of cell nuclei and clear vesicles deposited among the white fibres occur, however, even in this body; but these are not what are called cerebral convolutions and psycho-motor centres. Charcot has asserted that paralysis is owing to the destruction of the gray matter of the cerebral convolutions.

Ferrier, the representative authority of a long line of French and German and other very recent physiologists, has brought to our attention somewhat after the manner of Gall and others, that certain psycho-motor centres reside alone in the gray substance of the cerebral convolutions, and it is by the destruction or lesion of any one of these parts or centres that certain special paralysis or loss of function occurs. More recent experiments of Goltz upon dogs and other animals showed that even very extensive destruction of the gray substance does not result in muscular paralysis or loss of such psycho-motor function. So the question is still far from being settled. The case reported would seem rather to favor the views of Goltz than otherwise. I can not forbear to mention still another feature of interest. It is this: although the old lesion was no doubt due to cerebral hæmorrhage, the arteries of that part had not undergone any sensible atheromatous change; indeed it was only at the base of the brain that the vessels even "were somewhat atherematous in spots." This is in accordance with what Charcot, Dalton, Seguin and others have so recently pointed out, that cerebral hæmorrhage is quite as likely to occur in the young as in the old. A mere organic change in the vessels is all that is essential to produce such hæmorrhage. Finally this case, as far as it goes, proves rather the prevailing opinion regarding the decussation of nerve fibres than the doctrine taught by M. Pitres[1] that there are individual variations of the decussations of the pyramidal tract as maintained by Türck and Fleming.

A CALCAREOUS CALCULUS IN THE SUBSTANCE OF THE LIVER.

BY WILLIAM A. BYRD, M.D., QUINCY, ILLINOIS.

Read in Section of Surgery and Anatomy, American Medical Association, May, 1884.

It will not be necessary for me at this place to write of the genesis of calculi in general, but to call your attention to the fact that although frequently found in the urinary bladder, kidneys, and other portions of the body, that any concretions other than biliary calculi are so seldom found in the liver that any mention of the fact has to be sought for in works upon general pathology, and mention is then made in a vague manner, as the following from a "Manual of General Pathology" by Ernst Wagner, American Edition, p. 319: "Sometimes calcification arises in consequence of metastases. In extensive resorption of earthy salts from the bones (extended caries, numerous carcinomata of the bones, etc.), and the prevented excretion of them through the kidneys, the lime-salts, *e. g.*, are deposited in other parts of the organism; most frequently in the pyramids of the kidneys (as infarctions); more rarely in the lung tissue, in the mucous membrane of the stomach, still more rarely in that of the intestine, in the mucous membrane of the ethmoidal and sphenoidal cells, in the dura mater, liver, in the cerebral vessels. The parts affected thereby assume for the most part a pumice-stone consistency."

I will report to you a case and exhibit the specimen removed. On the 27th day of January, 1884, I was called to see Joshua A——, a laboring man aged 31, who had been sick for four months. I found him emaciated to some extent, having night sweats and rigors, a pulse of 106 of fair volume, bowels acting well and appetite excellent, skin sallow, but not discolored enough to be called jaundice. There was considerable dullness over the liver on the right side, extending to two inches below the ribs. I thought I could detect fluctuation between the ninth and tenth ribs, and having met with several abscesses in that location I passed in a narrow bistoury which gave exit to a flow of pus. I then enlarged the opening to an inch and a half in length, giving vent to nearly a pint of pus, inserted a drainage-tube, and ordered tonics.

[1] See JOURNAL OF THE AMERICAN MED. ASSOCIATION, vol. iii, p. 353.

This man had been at work where the land was low and subject to malarial influences, besides was living in a basement in a low, unhealthy part of the city. He was first taken with a chill, and was treated for malarial fever by several physicians, but did not improve. He had pain, but not of a severe type, over the region of the liver all the time. The last attendant before I saw him was a fellow claiming to be an electrical physician. He informed him that he could soon relieve him of the pain in the side with electricity, and put on a disk of copper and zinc plates over site of the greatest pain, binding it pretty firmly. The hard metal pressing against the skin caused considerable irritation and pain, and it was to see what was the matter that his wife called me in as I was passing. The suppuration continuing profuse, and being desirous of showing the senior members of the class an abscess of the liver, accompanied by ten of them I called on the patient February 19, 1884. Passing a probe gently through the opening to show the class how large the cavity of the abscess was, a hard substance was struck. I called their attention to it as probably a piece of necrosed rib, as in a case of liver abscess seen by me some three years before I removed three inches of necrosed rib from it. A forceps was passed in and the substance seized and drawn to the opening. Being too large to be extracted through the opening, I exsected an inch and a half of the tenth rib and removed the calculus I here show you. It was broken in extraction, but you see that it is a good deal larger than the end of my thumb. All the fragments were not saved on account of the impossibility of gathering them out of the blood clots. As it is it weighs 115 grains.

The wound and abscess cavity were thoroughly washed out, and the washing ordered to be repeated night and morning and the tonics continued. A probe could be passed into the liver toward the median line of the body for 5½ inches. The patient continued to improve rapidly, and the wound now does not discharge over one or two drachms of pus daily, and he has been able to row a skiff across the Mississippi river. When I first removed the mass, I wondered if it could possibly be a portion of a body of one of the vertebræ necrosed, causing ulceration and abscess of the liver; but a more careful examination proved that hypothesis untenable, as it was not bone at all, but an earthy calculus. This calculus could not have arisen in this case as described by Wagner, as the man had no necrosis of the bone, nor cancer of the bone, but had been healthy previous to the time he was first attacked with a chill. If it was the result of the drying up of an old abscess, how did it happen that an abscess so large as in its drying to produce so large a stone as this caused so little constitutional trouble? Yet such might have been the case, since I have seen some very large abscesses of the liver cause but little trouble, and for a long time elude diagnosis even in the hands of able men. It may have been caused by a thrombus in one of the arteries, causing death to the part supplied, and calcification ensued, as it often does under like circumstances elsewhere.

This case I consider unique, and finding no specimen of the kind in the vast Army Medical Museum at Washington, I shall present this one to it, that it may be studied by any one who may so desire.

P. S —The subjoined letter was received since reading the above paper, and may be of interest in connection with the rest of the report:

SURGEON GENERAL'S OFFICE,
ARMY MEDICAL MUSEUM,
WASHINGTON, D. C., May 14th, 1884.

DR. WM. A. BYRD, No. 416 Jersey St., Quincy, Ill.:

Dear Sir:—The calcareous substance removed by you from the parenchyma of the liver of J. Abner, of your city, has been analysed and found to be a calcic phosphate calculus. The specimen has been deposited in the Pathological Section of the Army Medical Museum.

I am, sir, very respectfully your ob't serv't,
By order of the Surgeon General,
W. M. MATTHEWS,
Assistant Surgeon U. S. Army.

REMARKS ON THE TREATMENT OF SYPHILIS BY HYPODERMATIC INJECTIONS OF CORROSIVE SUBLIMATE.

BY JOHN V. SHOEMAKER, A.M., M.D., PHILADELPHIA.

Read in the International Medical Congress, Section on Syphilis, August, 1884.

The hypodermatic injections of mercuric chloride for the treatment of syphilis have been received with great caution in the United States of America, notwithstanding that Dr. Lewin's book on the subject had been there translated and republished. I was one of the first to take up that treatment there, and reëncouraged by my success with it, read a paper on the subject before the meeting of the American Medical Association at St. Paul, Minn., in 1882. I analyzed there a number of cases treated in this manner by me at the Philadelphia hospital for skin diseases. I have since then practiced it freely and with even greater success than before. Syphiloderma of all descriptions were made to yield under this treatment and no disadvantages of any consequence were experienced in its course. While I have experimented with the various additions and modifications of the original Lewin's mercuric bichloride injections, I have invariably given them up in preference to the method suggested by Lewin in using a simple watery solution of corrosive sublimate. I have found, however, that the treatment could be carried very much further and larger doses readily borne, and necessary for a thorough cure, than pointed out by him. I have invariably carried daily increased injections to the point where they produced systemic effect, and have in many instances made, and found it necessary to make, injections of as much as half grain (3 centigrammes) per day. These strong injections were readily borne, providing they were sufficiently dilute, not less than half drachm (2 cubic centimetres) being employed for an injection containing half grain (3 centigrammes) of corrosive sublimate. When these daily large in-

jections were reached, the systemic effect of mercury soon became apparent as ptyalism, intestinal irritation and occasional tremor, which, however, soon subsided on ceasing with the injections, administration of potassium chlorate and occasionally the exhibition of potassium iodide, which, although acting as an adjuvant in the treatment did not serve to augment the systemic effect of the mercuric bichloride, but rather diminished its characteristic symptoms. Stimulation by milk punches, supporting treatment with ferrous iodide, were often found of great utility, but generally after twenty-four to thirty daily injections, the syphilitic symptoms had disappeared, and where the increasing dose had been persistently continued, the relapses proved a rare exception indeed. I attribute the effect of this treatment to a formation of mercuric albuminate in the cellular tissue, which, insoluble to the liquids of the organism, gradually dissolved under the peptonizing action found everywhere in the body, and thus produced a peptonized mercuric albuminate readily assimilable and eliminable in and through all parts of the body.

I am led to this inference from the fact, that otherwise toxic doses, were innocent if injected under the skin, and if it were not for local irritation I think even larger doses than I have mentioned could be borne without toxic effect. The local effect of the injections seems to bear out my views. Even large doses produce, at best, a lump which, though producing a somewhat erythematous condition of the skin, never suppurates or gives rise to deeper inflammation. I am free to say that in the thousands of injections I have so made, I have never met with an abscess or serious inflammation, though the lumps of mercuric albuminate could be detected for several days. The only precaution I observe is to use a clean gold needle, and to inject deep enough into the subcellular or connective tissue where there is plenty of free and convertible albuminous substance. Though the pain in these injections is always a disadvantage, if the solution is sufficiently dilute it will be lessened to a considerable degree, or augmented if more concentrated. No addition of any kind has in my hands lessened this, although I have with advantage administered ¼ of a grain (1½ centigrammes) of morphine sulphate into the arm hypodermatically prior to the injection of the corrosive sublimate. I regard it as necessary, to bring syphilis to an abeyance and to obviate an early relapse, to constantly increase the strength of the mercuric chloride until its constitutional symptoms, and then continuing with its use in a less vigorous manner until all symptoms have disappeared, sustaining the patient during this period with aliment, stimulants and medication. Conducted in this manner, I regard the treatment of syphilis by hypodermatic injections of corrosive sublimate, as more rapid, reliable, cleanly and less dangerous than either the internal exhibition of mercurials or iodides, or the combination of the two; or the nasty, filthy, inunction treatment, either with or without variations. In no cases have I found it necessary to use more than twenty to thirty injections, though I have frequently continued the after treatment for a month or two with decided doses of potassium iodide.

THE VALUE OF CARBOLIZED WATER FOR THE PREVENTION OF SHOCK IN LITHOLOPAXY, WITH THE RESULTS OF NINETEEN CASES.

BY EDMUND ANDREWS, M.D., LL.D.,

PROFESSOR OF CLINICAL SURGERY IN CHICAGO MEDICAL COLLEGE.

Presented to the Section of Surgery and Anatomy of American Medical Association, May, 1884.

The power of carbolic acid to benumb the sensibility of the nerves, when applied locally, is well known. For several years I have acted on this hint in the new operation of litholopaxy, with the view of blunting the impressibility of the urethral and vesical nerves, so as to make them tolerate the prolonged use of instruments without shock. For this purpose I provide a large supply of warm carbolized water, of the strength of from 1½ to 2 per cent., and use this exclusively, both to distend the bladder during the crushing of the stone and to wash out the fragments. The result is so gratifying that I cannot but attach great value to this method. I have tried it in nineteen cases, with only one death. The patients averaged nearly 60 years of age, and most of the stones were large. One patient of the age of 69 years, with a stone weighing over 2½ ounces, was under the operation for about an hour and a half. There was not even a chill following this severe procedure, and he recovered without a single dangerous symptom.

One stone in a young man was of oxalate of lime and over an inch in diameter, and so hard that the first fracture required nearly the entire strength of my hands. He recovered without difficulty, and walked about town in eight days. Other cases were equally striking.

The acid seems to act favorably by blunting the nervous susceptibility to shock, and also by leaving the bladder in a thoroughly antiseptic condition, highly favorable for preventing inflammatory action.

No. 6 Sixteenth street, Chicago.

PAINLESS INCISIONS BY INSTRUMENTS ADVANCING WITH A SLOW, IMPERCEPTIBLE MOTION.

BY EDMUND ANDREWS, M.D., LL. D.,

PROFESSOR OF CLINICAL SURGERY IN CHICAGO MEDICAL COLLEGE.

At a former meeting I called the attention of the Association to the painlessness of incisions and injuries when made by circular saws, bullets and other objects moving at a rate exceeding 200 feet in a second. I also detailed some experiments with a revolving knife made to move by a powerful spring at a similar velocity.

A careful study of certain classes of surgical injuries, seems to show that pain exists only when the traumatic agent moves at a certain intermediate range of velocity, and that wounds made by objects moving on the one hand at a very high speed, or, on the other hand, at a very slow, imperceptible rate of motion, are nearly painless—often entirely so.

Practical application of this law has long been made in surgery, where a fine rubber thread is made slowly and painlessly to cut through the sphincter in cases of *fistula in ano*, or to divide the pedicle of a tumor.

I have lately commenced experiments with an instrument having an exactly measured and very slow rate of motion.

The apparatus is a thin sharp knife made to advance with a spring, whose velocity is held in check and regulated by an attached watch movement. When applied to the surface with bandages, the knife advances into the flesh of the patient with a perfectly regular motion at the rate of one inch in six hours.

The instrument having been only recently finished, I can as yet report but few experiments, but I have gone far enough to prove that at this velocity there is no clearly defined pain, but only a slight sense of uneasiness, which does not even prevent the patient from falling asleep, if he happens to be so inclined, as he was in one of my cases.

My theory is that at this slow rate the pressure of the thin advancing blade benumbs each nerve twig before it actually divides it, as slow pressure on any larger nerve deprives it of sensibility, and that the slight uneasiness before mentioned is caused by this slow pressure, and not by the actual division of the nerve fibres.

Although the painlessness obtained by high and low velocities can never entirely supersede the regular anæsthetics, yet I hope to show at a future meeting that there is a wide group of minor operations where this principle is applicable for the prevention of surgical pain, and to present instruments of practical value for this purpose.

No. 6 Sixteenth St., Chicago.

MEDICAL PROGRESS.

SURGERY.

THE SURGICAL AND ORTHOPEDIC TREATMENT OF INFANTILE PARALYSIS.—Bernard Roth, F.R.C.S., in a paper read before the British Medical Association (*British Medical Journal*), gives special attention to the use of massage and movements, both voluntary and involuntary, in the treatment of infantile paralysis after the acute stage has passed, to improve the power of those affected muscles which have still some voluntary power left; and to prevent the onset of any deformity, or, if this has already occurred, to reduce it to a minimum. The first thing done is to correct the lowering of temperature, nearly always present, of the limb or limbs. If one leg is affected, the parents should be told not to be satisfied unless it is as warm as the healthy one; quick sponging with tepid water, good rubbing and drying, and extra clothing, such as loosely knitted woolen stockings, thick cloth leggings, or, best of all, cloth leggings lined with cat skin or other fur. Baths 98–100° F. for 10–20 minutes every evening. A small barrel on end answers admirably. This to be followed by a rapid sponging of the whole body with cold water.

Massage more frequently an hour twice daily by *kneading*, a combination of grasping, and large pinching and pressure, with the two hands used alternately, one after the other, so that whatever is left of the wasted muscle is thoroughly squeezed and moved about. The skin to be protected from abrasion by lubrication with olive oil, or vaseline.

Circular friction by the thumb is done as follows: The operator's thumb-end is firmly placed on any given spot, and while considerable pressure is exerted, describes small circles, ten times from right to left, and ten times from left to right. A spot an inch higher or lower, or to one side, is then treated in the same way, and so on until every part of the muscle has been thoroughly manipulated.

Fulling acts less directly on the muscles, but rather on the whole of the tissues of the paralytic limb; it is effected by rapid to-and-fro alternate gliding of the two palms on opposite sides of the limb, which is at the same time as firmly compressed as possible. If the leg is to be "fulled," the operator begins close to the groin and gradually works his way down to the foot, moving the hands rapidly to and fro the whole time. The first time, the hands should be on the outer and inner aspect of the leg; the next, they should be placed higher on one side and lower on the other; the third time, this position is reversed; and, finally, the hands are placed posteriorly and anteriorly to the limb. After five minutes of such manipulation a dozen or two firm *strokings-down* of the leg end the rubbing.

With this the so-called Swedish exercises or medical gymnastics makes the treatment complete. The latter varies according to the part to be influenced and consists in making each muscle or group of muscles contract and then gradually relax, at first actively and then against resistance by the surgeon. With the *hip-joint* the patient lies prone and raises the leg, with the knee kept extended, from off the ground—if too weak, the hand under the knee assists the movement. Circumduction follows of the hip from right to left, and *vice versa*, ten or twelve times each way—its severity being increased by pressure of the hand against the back of the heel. *Knee-joint.* Here the patient lying supine has the knees flexed, and the legs hanging vertically over the end of the padded table on which he lies, and exercises the extensors by slowly extending one knee, when too weak the foot is supported. *Ankle-joint.* Here the leg is supported on a chair, the foot projecting; flexion, extension, adduction, abduction and circumduction are executed either voluntarily by the patient or passively by the surgeon. The *shoulder-joint.* The patient lying on the back, circumduction from before backwards, the elbow and wrist being kept extended voluntarily or by a wooden splint. To bring the scapular muscles into action, the patient, lying supine, with the arms down by the side of the trunk, or abducted at right angles to the body, or extended upwards by the side of the head, is told to resist the arms being brought forward from either of the above positions, and then voluntarily returned to the initial position against gradually yielding resistance. *Elbow-joint.* The upper arm being fixed against the table, flexion or extension is easily resisted by the

hand. Throughout all these exercises, care should be taken that, while the patient is trying to contract, he is prevented involuntarily contracting other stronger or normal muscles which should be kept at rest.

He further recommends to equalize the length of the two legs where one has become shortened, by a thicker sole on the boot of the shorter, to bandage the sound arm to the side for some hours daily, where one arm only is paralyzed, and to stop at once all unnatural modes of progression. If the toes are much deformed, stockings with toes will be found efficacious. Suspenders and never garters should be worn. Milk entering largely into the food, tepid water enemata on alternate days, and fresh air several hours daily, complete in brief, his mode of treatment.

Tetanus Produced by Hypodermic Injections. —Dr. Pietro Rossi reports in the *Gazzetta degli Ospitali* (*Lancet*) a case in which tetanus followed repeated injections of hydrochlorate of quinine. The patient was a youth, aged 18, of lymphatic temperament, affected with incipient pulmonary tuberculosis. Hydrochlorate of quinine was injected every other day, sometimes twice a day, with much constitutional benefit; but each puncture was followed by slight local irritation, with circumscribed redness and pain under pressure. These symptoms only lasted a day or two. In consequence of febrile exacerbation, the injections were repeated twice a day for three days, alternately in the arm and forearm of the same side. Each time the solution of hydrochlorate of quinine was the same in strength, bulk, and temperature. Four days after the last injection the pain increased at one of the punctures, which became red and turgid. These symptoms were allayed by repeated poultices, and no fever supervened; but the patient complained of great weakness, and of difficulty in moving the jaws when eating. Chloral was at once freely administered by the mouth; but in the course of a few hours all the symptoms of tetanus were developed—trismus, opisthotonos, and pharyngeal constriction, preventing deglutition. Chloral clysters in large doses proved unavailing. Muscular spasms of the trunk increased in frequency and violence, and death occurred suddenly, thirty hours after the appearance of the first tetanic symptoms.

Abscess of Cowper's Glands. — M. Verneuil (*Progrès Med.*) reports the case of a man, aged 62 years, who came under his care at La Pitié. For some time he had had symptoms of dysuria. These finally became very pronounced; urination became extremely painful, and the desire frequent. Examination showed a stricture of the membranous portion of the urethra. M. Verneuil diagnosed stricture of the urethra, and ordered a bath and a purgative, and next day passed a No. 3 bougie, the size being then changed every two days, until a No. 9 was passed. This was soon followed by an attack of orchitis, and this by an exudation into the tunica vaginalis, which afterwards became encysted. Dilatation of the urethra was kept up, and the patient left the hospital able to pass a No. 15. He returned in about three weeks, with a large swelling of the right side of the scrotum; this was due to abscess formation, which opened in five days. Three days afterward the patient died. The autopsy showed the bladder small and retracted, and its walls thickened. A No. 7 sound could be passed per urethram. Near the prostate a small quantity of pus was found. On dissection, a small cavity was found, filled with phlegmonous, greenish pus. It was situated at the posterior part of the urethra, and behind with the bulb of the urethra and the perineal muscles, above with the prostate, and below with the bulb. In the opinion of Verneuil and Cornil, this was a case of abscess of Cowper's glands.—*Midland Med. Miscellany.*

Removal of a Gall-Stone from the Ileum.— Dr. Wm. E. Taylor communicated to the Naval Medical Society (Proceedings) the details of a case in which the symptoms led to a diagnosis of internal strangulation of the bowel, from the presence of obstinate constipation and stercoraceous vomiting. Upon being placed under chloroform an incision from the umbilicus to the symphysis pubis opened the cavity of the abdomen, a moderate distension of the small intestines with congestion, and circumscribed patches of plastic peritonitis were found. A band surrounding the ileum was encountered, which was thickened and inflamed at that point, but as the lumen of the gut was only partially occluded, it seemed certain that it could not be the sole cause. It was divided, and following the distended gut down, a hard, pear-shaped body was found firmly impacted in the ileum at its lower portion, say, some 12 or 18 inches from its lower end. This body was situated with its small end pointing downwards, fitted as tight as a cork, not even allowing wind to pass it. It could not be moved, nor could the fingers make any impression on it by any *safe* pressure. A needle was introduced through the wall of the gut, but it was too hard to be broken. The intestine was opened by an incision an inch in length, and a pear-shaped gall-stone nearly two inches in length and one inch in diameter was removed. The incisions were closed and antiseptic dressings applied. The patient stood the operation well, and had a natural movement of the bowels at the end of 36 hours, but died of exhaustion on the fifth day after the operation without any evidences of peritonitis.

Dr. Taylor's conclusions were that there must have been an inflammation of the gall-bladder, and that adhesions had formed between it and the duodenum, followed by an ulcerative process, and, finally, a perforation of the adherent wall, and through this the stone had escaped into the intestine. An examination showed the gall-bladder to be thickened and closely adherent to the duodenum, with an opening nearly an inch in diameter leading through into the bowel, the peritoneal cavity being shut off by the adhesions. The post-mortem showed that the intestinal wound was so far healed as to prevent the escape of its contents. The wound in the abdomen had not taken on much repair.

MEDICINE.

ON THE DIFFERENT KINDS OF SUBJECTIVE AURAL SOUNDS AND THEIR TREATMENT.—Dr. Ladreit de Lacharrière has an article on this subject in the *Annales des Maladies de L' Oreille, du Larynx, etc.* He refers first to the influence which this tinnitus aurium exerts on the minds of many patients, giving melancholia to many and even causing suicide. If proper attention be given to the recital by patients of the character of these sounds, they will be found to represent a certain number of types which preserve absolutely distinct characteristics. These are sometimes vague sounds like that of the shell, or the distant roll of a drum or rumble of a carriage, which are either constant or increase at times. A second type is that of rustling, like the air stirring leaves—or more marked, like the escape of a jet of steam. A third type is that of musical sounds—approaching in character sometimes those of the preceding ones, but always having a musical tone, such as noises analogous to musical instruments, to the striking of metal plates, to the sound of bells, with the airs which one has heard constantly repeating themselves. The fourth type is that in which the subjective sensation presents pulsatile beatings, in two forms, one subjective, properly speaking, the other pseudo-subjective, in which the physician and patient both perceive the sound. These sounds have been classified as follows:

1. Sounds characteristic of occlusion of the natural passages, the auditory canal and the Eustachian tube.

2. Sounds produced by the exaggeration of the pressure in the labyrinth by the parts in the middle ear.

3. Sounds in the labyrinth produced by disturbance or lesion in the internal ear.

4. Sounds developed in the neighborhood of the ear and heard by the physician.

1. Sounds by occlusion of the natural passages, either from a temporary cause as the presence of a foreign body, or from a more durable lesion, are marked as uniform and continuous and compared to the distant roll of a drum, rumbling of a wagon, or that of the cavity of a large shell held to the ear. These are the result of internal sounds which, from the occlusion, have been reinforced to an extent rendering them appreciable by the auditory nerve.

2. Sounds produced by exaggeration of the pressure in the labyrinth, may be demonstrated in the healthy subject, by pressing on the handle of the malleus with a blunt hard substance, when a sound like that of the rustling of leaves, of the falling of a torrent or cascade, will be heard. These sounds are in no ways musical, and their cause lies in the exaggerated pressure upon the fenestra ovalis, as when a foreign body presses against the handle of the malleus, or when complete occlusion of the Eustachian tube provokes a degeneration of the membrana tympani, and causes a modification in the position of the chain of bones. This is observed in hyperæmia with retraction of these bones; in shortening of the tendon of the tensor tympani, as seen in median otitis with œdema of the mucous membrane of the tympanum, in certain catarrhal affections of the same region, in the hyperæmia present in serious cases of fever, and where the irritation of the pharyngeal mucous membrane is propagated to the tympanum. These sounds may be permanent, if tympanic adhesions or ankylosis of the bones occur; they may be intermittent if produced by spasms of the muscle, or by temporary hyperæmia.

3. Slight or serious affections of the labyrinth, transitory or permanent, accompanied by subjective sounds, whilst the auditory nerve has not lost all sensibility. These sounds are variable, but all partake of a musical character, that is to say they have a sonority which can be represented by a musical note. The most common sound is that comparable to the whistle of a locomotive. When non-musical sounds are heard at the same time, there are certainly multiple locations of modifications of the organ of hearing. These sounds affect patients most markedly, they may even give rise to thoughts of suicide, they are analogous to the sounds produced by stringed instruments, such as the harp and the violin detonations, bell ringing, percussion of metallic instruments, the singing of birds, etc. It is impossible from our present imperfect knowledge of the physiology and pathological anatomy of the internal ear, for us to class all of these various sounds with their corresponding lesions, but the nature of the sounds frequently enables us to decide what is the nature of the affection. We know, for example, that congestion of the labyrinth due to a febrile condition like typhoid fever, or to a neurosis like migraine, may give rise to pulsatile sounds isochronous with the beats of the pulse, and that these characters always belong to vascular developments of a varicose nature. In hæmorrhage of the labyrinth, the sounds become very violent and painful. In chronic labyrinthic otitis the noises become incessant. The other lesions that are most frequent are fatty, fibrous or amyloid degeneration of the auditory nerve, hypertrophy of the labyrinthine membrane, and traces of a chronic exudative inflammation with a production of calcareous salts and pigmentary deposits.

These sounds are sometimes produced by such external causes as the discharge of a gun, or the production of some lively emotion—as in the case of a woman who awoke to see her child's cradle in flames, a nervous affection ensued which was cured in the course of eighteen months, but the sound of the crackling of the flames still remained. It is evident that the sounds which result from an excitation of the auditory nerve vary in intensity according to the general and moral condition of the patients, to their surroundings, and to their little excesses. An excitability of the nerves causes sometimes an increase in the sounds when the eyelids, the temples and the cheeks are touched—particularly during the process of shaving.

Schwartz was among the first to recognize the relations between these sounds and certain forms of mental disease characterized by hallucinations of hearing. He, with Kopp, in 1869 examined 97 cases of insanity; 41 were troubled with ear affections, that is subjective sounds and acoustic illusions or

hallucinations; 26 were affected by noises without deafness—among them 7 had hyperæmia of the handle of the malleus, 6 ceruminous collections, in only 2 did the noises cease with the removal of the condition, but the hallucinations persisted; in 7 there were noises without hallucinations. Of those remaining 18 had hallucinations without noises, and 22 presented none of these symptoms.

The noises which ensue upon the administration of sulphate of quinine and salicylate of sodium are probably due to congestion of the labyrinth.

Besides these subjective sounds which have been enumerated, there are others due to true sonorous manifestations in the interior of the body, such as the vascular sounds from alterations in the blood, as chlorosis and anæmia. In aneurism of the basilar artery there is often a pulsatile sound at the occiput. Rayer records a case where it was isochronous with the heart-beats; it was not possible to discover the situation of the aneurism, it seemed as if the noise had its origin in a modification of the parts to which were sent the branches of the posterior auricular artery. According to Hirtl, there exists constantly in man, between the two branches of the stapes, a capillary which passes to the promontory; might not affections of the tympanum frequently induce alterations in this vessel? M. Lacharrière has often relieved patients of pulsatile sounds by compression of the external carotid.

As to treatment, a reëstablishment of the permeability of the external auditory canal and the Eustachian tube will relieve the sounds in the first category.

Insufflation of the tympanum whether simple or with medicaments, in reëstablishing the suppleness of the organs of the middle ear, will relieve the noises due to an exaggerated pressure on the fenestra ovale. Paracentesis of the tympanum and section of the tendon of the tensor tympani may, in rebellious cases, become necessary; but it is well first to try the use internally of iodide of potassium and arsenic; of instillation in the external auditory canal of iodide of potassium, sulphate of zinc, chlorhydrate of pilocarpine, the neutral sulphate of atropia, which have, according to the character of the cases, given good results.

In labyrinthine affections, repeated revulsives applied to the mastoid apophyses, and the internal use of iodide of potassium, mercury, arsenic and aconite according to the morbid antecedents of the patient, seem often to have good effect. Large doses of sulphate of quinine may relieve the intolerable noises and vertigo, but at the expense of loss of sensibility in the auditory nerve. Finally, the application of the continuous electric current is beneficial, particularly in passive congestion from vascular atony; it excites vascular contractility and causes the blood stasis to disappear. It has been of great service, and is used by placing a pole upon each external auditory meatus, taking care to place the negative pole on the ear which is most particularly affected. The current affects all the contained parts, and when interrupted the patient experiences a shock, and sensation of light, showing the optic chiasm to be involved. No durable bad feelings or other trouble have been produced by this method. Daiffe's battery was the one most commonly used, with chloride of silver, and the intensity of the current was never greater than 16 to 18 elements.

Weigert's Method of Staining.—Dr. Strassmann, at a recent meeting of the Berlin Medical Society, presented some sections of the spinal cord stained according to Weigert's method, which is as follows (*British Med. Jour.*): A solution of hæmatoxylin is prepared with water and alcohol; the sections are kept immersed in it during an hour, and the temperature is maintained between 40° and 50° Cent., 104° and 122° F. They are then removed from the solution, washed and placed for three hours in a 2 per cent. alkaline solution, or in one of potassium ferrocyanide. Afterward they are submitted to the influence of alcohol, xylol, and Canadian balsam, as in the usual method. In sections thus prepared, nerve fibres with a myeline sheath are stained blue, the neuroglia pale yellow, and the ganglia cells brown. This method throws into relief the nerve fibres with a myeline sheath. Strassmann presented other preparations which brought out clearly the structural change in the spinal cord in a case of tabes dorsalis recently studied and described by Lissauer and Weigert. In sections of the cord, in a case of secondary degeneration following caries of the vertebræ, Clarke's columns are manifest. In their normal condition they present the aspect of brown rings brought out in strong relief on a light background; close to them a groundwork of fibrillæ, which are more closely packed than in the posterior columns. The ganglia cells are imprisoned in the meshes of this network. In the preparation of tabes dorsalis, Clarke's columns appear as light rings against a dark background; microscopic examination shows that a large quantity of nerve fibres with a myeline sheath have disappeared. The same structural change is found in the histological preparations when this new method is adopted.

Disinfecting the Sputa of Phthisis.—Dr. J. Sormani, Professor of Hygiene at the University of Pavia, gave some interesting details at the Hygienic Congress of Hague concerning experiments made this year on 150 guinea-pigs with the sputa from phthisis. The object in each case was to ascertain what chemical or other methods would neutralize the bacillus, which it was previouly ascertained existed in large numbers in the sputa. The results of these experiments were summarized in the following manner. (*Lancet*):

1. The bacilli of tuberculosis were generally very difficult to destroy. Dryness, exposure to oxygen, putrefaction, and most disinfectants failed to produce any effect. 2. A temperature of 100° C. only killed the bacilli after at least five minutes of ebullition. 3. The artificial digestion of bacilli showed that they were the last of all living organisms to be destroyed by the gastric juices or chloridric acid. A very active digestion is necessary to kill this microbe. A healthy man may destroy the bacilli in his stomach,

but an infant or an adult with his digestive faculties impaired would easily allow the germ to pass the stomach intact, and retain its virulence in the intestinal tube. This determined enteric ulcerations, etc. 4. The bacillus of tuberculosis can be preserved intact for a whole year when mixed with water. It is probable, though not proved, that it has retained its virulence during that time. Thus, drinking water may become the means of propagating tuberculosis. It is probable that contaminated linen retains its virulence for five or six months. 5. Alcohol does not destroy the germ, and hard drinkers often suffer from tuberculosis. 6. Cod-liver oil, ozone, oxygenated preparations, and other similar remedies have no effect in killing the bacillus, nor are benzoate of soda, salicylate of soda, sulphate of zinc and carbolic acid, iodide of silver, bromide, camphor, etc., of much greater use. They injure, perhaps, but do not absolutely destroy the bacillus, at least not in the doses that can be taken without danger. 7. A more decisive action may be attributed to creasote, eucalyptol, pure carbolic acid, the naphthols, and bichloride of mercury. 8. For disinfecting spittoons, carbolic acid solution at five per cent. is thought sufficient, and Dr. Sormani asserts that the breath never contains any bacillus. He also suggested that essences of turpentine or eucalyptol should be diffused in houses as an agent for the destruction of this special germ.

NOTE ON A CASE OF CHYLIFORM EFFUSION OF THE PERITONÆUM.—Dr. Maurice Letulle, in the *Revue de Médicine*, gives a case of chyliform ascites in a child eight years of age with a mitral affection of rheumatic origin. Cardiac cachexia. Asystolic. Enormous liver. Anasarca; double hydrothorax. Paracentesis of the abdomen gives issue to two quarts of a milky fluid. The microscope showed this to contain an enormous quantity of emulsionized fat, some red globules and leucocytes. Dr. Letulle argues that the term chyliform ascites is not proper as applied to this condition and concludes:

1. That all cases of chyliform ascites to the present time which were submitted to post-mortem examination, are cases of chronic tuberculous, cancerous or neo-membranous peritonitis.

2. The presence of chronic inflammatory lesions, represents one of the most constant elements in the genesis of peritonitis and pleurisy with chyliform effusion.

3. That the granulo-fatty change of the effused inflammatory products (fibrine and leucocytes) suffices, probably, for the composition of the whole of the emulsionized fat suspended in the pleural or peritoneal serum.

PURULENT INFECTION OF PUERPERAL ORIGIN IN MAN.—Drs. Gaucher and Bourrier give a case in the *Revue de Médecine*, of a man 30 years of age, a rubber by profession, whose wife was confined by a midwife July 5, had fever and died of puerperal disease July 9. This man, the patient, had tended his wife until her confinement, when he lost his appetite, was fatigued, febrile, and had general malaise July 8; pain, redness, and swelling in the left forearm, and posterior portion of the left thigh, chills and sweats. July 10, he entered the hospital with a temperature of about 103.0°, subicteric facies, yellow conjunctivæ, frequent respiration, painful cough with expectoration of yellowish viscid material, and evidences of pulmonary congestion. Abdomen not tympanitic, gurgling on pressure in the right iliac fossa, stools normal, enlargement of liver, tumefaction of spleen, albuminuria. He remained in the hospital under treatment until Aug. 25, when he was discharged as cured. During that time an abscess formed in the left forearm which was opened July 16. An inflammation set in on the left leg from below the knee to the ankle. An abscess also set in on the right leg just below the knee, which was opened July 20. The right thigh and the left leg had also to be relieved of pus a little later on.

These observers consider that this case represents puerperal fever in man. This man after attending his wife who dies of puerperal fever, is affected by an infectious disease, characterized by chills, fever, albuminuria, tumefaction of the liver and hémapheic icterus, tumefaction of the spleen, pulmonary congestion and multiple suppurative angeioleucitis. No other cause for infection could be assigned.

At the Annual Meeting of the American Academy of Medicine, in Baltimore, held October 28 and 29, 1884, Dr. Albert L. Gihon, of U. S. Navy, was elected President for the ensuing year.

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania; Vice-President of the Medical Jurisprudence Society of Philadelphia; Physician to St. Joseph's Hospital; Member of the College of Physicians of Philadelphia; Corresponding Member of the New York Medico-Legal Society. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1884.

This new work contains 606 fair-sized octavo pages, and is published in good style. The type is plain, and the paper and binding good. The author has been well known as an eminent teacher of the subjects embraced in this volume, and is well qualified, both by scientific attainments and practical experience, for the performance of such a task as he has just completed.

In looking through the work rather hastily, we are satisfied that the topics usually included under the head of Medical Jurisprudence or Forensic Medicine, are well arranged, a fair relative importance given to each, and the whole treated in that clear and concise manner which admirably adapts it to the needs of students both of Law and Medicine. While for detailed references it cannot supersede the more extended works of Casper, Beck, Taylor, Wharton and Stillé, Tardien, and others, yet as a text-book for classes in schools of Medicine and Law it will at once take the first place on the list. Price in cloth $4, in sheep $5.

THE

Journal of American Medical Association.

PUBLISHED WEEKLY.

THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, SEPTEMBER 1, 1884.

AMERICAN PUBLIC HEALTH ASSOCIATION, TWELFTH ANNUAL MEETING.—Last week we gave a summary of the doings of this important organization during the first day of its session recently in St. Louis.

The second day was occupied chiefly with the reading and discussion of the following papers:

Dr. S. O. Richey, of Washington, presented a paper on "The Hygiene of the Eye-Sight of School Children," in which he urged the importance of subjecting every child before admission to any school, to a medical examination of the eyes, first for the purpose of excluding such as might be affected with contagious diseases of those organs; and second, for the purpose of securing better adjustments of the amount of work required, to the capacity of the child for doing it without injury.

Prof. Charles E. Munroe, of the United States Naval Academy, at Annapolis, furnished a paper on "Cotton Seed Oil as a Food;" in which he claimed that the oil was a perfectly wholesome and proper article of food; and would be of much value to the people, if the prejudices against it could be so far overcome that it might be sold in the market under its own name freely.

The next three papers related to school hygiene. One of them was in the form of a report from the Committee on School Hygiene, presented by Prof. D. A. Sargent, of Harvard University. The practical facts presented in this report were obtained chiefly from an inspection of the schools and school-houses in Boston and its vicinity. It stated that all the schools visited by the Committee were defective in some one or more particulars, such as location, drainage, playgrounds, privies, or ventilation and seating arrangements.

Before submitting to the Association, however, a full report it was suggested that a more general collection of facts and data should be made from all parts of the United States. The suggestions on this subject were approved and the Committee continued with two new members added.

Another paper was by Dr. Felix Formento, of New Orleans. He reviewed the progress of the public school movement in America, and said that it was estimated that there were 9,800,000 children attending the schools. But education was of little value without school hygiene. The study of sanitary conditions had a marked influence upon the whole after life of the children, who should be taught what led to health as they were taught what led to fortune. The physical qualities should be cultivated as much as the mental qualities, and the physical development should precede the mental development. Ignorance or the neglect of hygiene in the school life of children caused many physical infirmities and deformities. The greatest attention should be paid in schools to the sitting postures of the children, to the length of the various lessons, and to the habits of the children. The teaching of calisthenics should be made compulsory in every public school, both for boys and girls, as it was important for the latter as it was for the former. It was not necessary to have a complicated and expensive apparatus. A few horizontal bars and ropes were all that were necessary. Such exercises should be continued only for a short time, and should never be allowed to exhaust or fatigue the children. Hygiene should be made a study in all schools. The children should be impressed with the importance of good health, and taught the best ways of preserving it and promoting it. Through the school children the ideas would reach the family and thus greatly benefit the whole community. He urged that there should be a system of compulsory medical and sanitary inspection in all schools. The work should be intrusted to competent and reliable men, and the cost of the inspection borne by the school boards, or the city and county authorities. The inspections should be made at least twice per month, and in addition to examining the children the inspectors should pay particular attention to the sanitary condition of the school-houses.

The third paper was by Dr. E. C. Elder, Secretary of the State Board of Health of Indiana, in which he showed the urgent need of improvements in regard especially to the location, drainage and surroundings of many of the school-houses of that State. He

claimed that the work of improvement in this line should be actively prosecuted by the State and local Boards of Health in all parts of the country.

The discussion which followed was taken part in by Dr. Raymond, of Brooklyn; Dr. Thompson, of Kentucky; Dr. Reed, of Ohio; Mr. Erastus Brooks, of New York; Dr. P. H. Bryce, of Toronto; Dr. Bell, of New York; Rev. Dr. Jacoke, of Michigan; Mr. R. Moore, of St. Louis; Mr. L. A. Smith, of Washington; Dr. Conn, of New Hampshire; Dr. Wm. Bailey, of Louisville; Dr. Early, of Indiana; Dr. Fee, of Kansas City; Dr. Devron, of New Orleans; Dr. Green, of Pennsylvania, and Dr. J. F. Hibbard, of Richmond, Ind. The discussion was mainly on the sites, ventilation, heating, lighting and sanitary arrangements of school-houses. It was contended that the health of the 7,000,000 of children in the schools of the United States made these questions of the greatest importance to the community.

Dr. V. C. Vaughan, of Ann Arbor, Mich., read a paper on Poisonous Cheese, the facts concerning which have already appeared in this journal under the head of Reports of the Michigan State Board of Health.

This was followed by an important paper by Dr. J. Cheston Morris, of Philadelphia, on the "Milk Supply of Large Cities; the Extent of Adulteration and its Consequences, and Methods of Prevention."

But little of value was added to the facts set forth in the full discussion of this subject, recently given in our columns, under the head of Proceedings of Suffolk District Medical Society of Massachusetts.

The plan of transportation recommended by Dr. Morris was the shipment of milk directly from the farmer to the consumer in quart glass jugs. The advantages of that plan were that the glass jars must necessarily be clean, and the milk free from contamination in transit, as the jars would be sealed. The customer would also get his share of the cream, and it would be to the interest of the producer to send the best article, as his reputation and connection with his customers would depend upon his so doing. The system involved more trouble to the farmer, and a consequent increased cost to the purchaser, but it was to the advantage of the purchaser to pay an increased price for a pure article. He had tried the plan in Philadelphia. It had been a pecuniary success. He therefore recommended it as one of the means by which really pure milk could be obtained, and infant mortality from inferior and adulterated milk reduced.

During the evening session of the Association, Hon. Erastus Brooks read a valuable, though somewhat desultory paper on "The Food we Eat and the Adulterations to which we Submit."

Surgeon Walter Wyman read a paper on the "Hygienic Condition of Sailors Engaged in the Coasting Trade, and especially the Hardships of the Chesapeake Oystermen." He stated that 100,000 people were engaged on Chesapeake Bay, in the oyster business, and that 300,000 people get their living directly from this industry. He stated that there were 1,000 square miles of possible bottom for oyster farming, and that it could be made to pay $1,000 per acre. The oysters are mostly gathered by dredging, and between the first of November and the following April, embracing the cold season of the year. Those immediately engaged in the dredging suffer severely from exposures to cold, wet and hard labor.

The writer closed by saying, "the life of the oysterman is far from a happy one, and advocated legislation to make it less terrible."

A paper on "Cremation" by Rev. John B. Beugless, Chaplain in the United States Navy, was then presented. It advocated cremation on sanitary grounds; the writer giving full assent to the popular germ theories, and claiming cremation as the only certain method of destroying the microbes.

The closing paper of the evening was by Hon. J. M. Keating, of Memphis, on "Ultimate Sanitation by Fire," in which he advocated the cremation of all suspected articles and sewage as well as the bodies of the dead.

For one hour before the commencement of the evening session the streets and public places were brilliantly illuminated, and the members of the Association given a free ride through the principal streets to witness the brilliancy of the display.

PAPERS FOR THE NEXT ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—At the last annual meeting of the Association, the number and character of the papers presented in the several Sections was greater and of better quality than usual, as may be seen by a glance at what has already been published in the department for original papers in this journal since the meeting in May last. This result was obtained largely through the active solicitation of the President of the Association and of the officers of the Sections. The careful reader will have noticed that the authors of many of the best papers acknowledge the influence of this solicitation in the first lines of their respective papers. We allude to this now, because it is time that the same influence

should be actively exerted in reference to the scientific and practical work that must be done to make the next meeting of the Association as interesting and valuable as the preceding one. The next meeting is to be in New Orleans, the metropolis of the South-West. The President of the Association is the representative of the South-East. If he has not already done so, let him follow the example of his illustrious predecessor, and give his personal attention and influence in aid of the officers of the several Sections to the securing from able writers in all sections of our great country a full supply of well-prepared papers on subjects belonging to every important department of medical science and art. But while we thus call upon those who occupy the places of honor to exert their influence in the direction named, we would urge those who have matter of value at their command not to wait for invitations from any source, but commence early, prepare their papers with care and completeness, and do not fail to give early notice of the title and contents of the same, to the chairman of the Committee of Arrangements, that he may have the materials for completing the programme for the next meeting at least thirty days before the time of meeting.

Medical College Endowments.—Several times we have had occasion, during the past year, to call attention to the great importance of liberal endowments to well established and properly located medical colleges. And we are now much gratified to learn that Mr. Wm. H. Vanderbilt, of New York, has donated to the College of Physicians and Surgeons of that city the munificent sum of half-a-million of dollars. If this is wisely used by the College, it will be amply sufficient to make the institution thoroughly efficient in all the departments of medical instruction. The authorities of the College, however, should not commit the too common error of spending the whole sum in new buildings and grounds, and have nothing left to sustain efficiently laboratories and workers in the more purely scientific departments of medical instruction. Mr. Vanderbilt has not only set a good example in the liberal amount donated, but also in bestowing it upon one of the oldest medical colleges in this country, and one whose trustees and faculty have been among the foremost in endeavoring to improve the general system of medical instruction. Who among those in this great city (Chicago) whose wealth is counted by millions will follow Mr. Vanderbilt's example, and donate one or two hundred thousand dollars to the medical college here, which has been the actual pioneer school in advancing and systematizing medical college education in this country. A generous and noble woman, Mrs. Murray, has recently given $15,000 to aid the Hospital for Diseases of Women and Children, which indirectly aids the Women's Medical College in this city. There are plenty of men and women of wealth in this and every other great city who could, by endowing the more exclusively scientific departments of permanent medical colleges, increase medical knowledge, and render more thorough the education of physicians, and thereby benefit, not a few sick persons who might find shelter in a particular hospital, but the sick of the whole human family, and for all coming time.

State Boards of Medical Examiners.—Under the head of State Medicine in the present number of the Journal, is an *Act*, or copy of a law prepared by a committee and endorsed by the Ohio State Medical Society at its last annual meeting, and which will be presented to the next session of the Legislature of that State for adoption as a law regulating the practice of medicine in that commonwealth. The framing and enforcement of proper laws for regulating the education of physicians and the practice of medicine, in such a way as to protect the real interests of the people, without having them liable to develop abuses and evils equal to the benefits they confer, is a work of great difficulty. To establish State Boards of Examiners, and confer on such Boards unlimited power to determine what shall constitute a proper medical education; what branches shall be taught in medical schools; and what schools shall be accepted as in good standing, is not only contrary to the genius of our governments, State and national, but is putting into the hands of a few men a power which they may wisely and honestly exercise in such a way as to elevate the standard of medical education, and thereby benefit the whole people, or they can just as readily wield it in such a way as to lower that standard, and foster both ignorance and oppression. The subject is one which has engaged our attention for nearly half a century, during which we have studied the history, progress and results of medical legislation in this country with much care. The only legitimate principle or pretext on which governments can claim the right to interfere with the choice of any person to study and practice medicine as he pleases, is the apparent necessity

of protecting the people from the injurious effects of ignorance and imposition, the need of medical knowledge on which to found the most important sanitary measures needed in every civilized community, and the need of skilled physicians and surgeons to attend to the wants of those who are serving in the army and navy as instrument of public defense. If it is assumed that these considerations are sufficient to justify government interference, by the enactment of laws for regulating the education of physicians and surgeons, and the practice of their art, then all such laws should be general and impartial in their terms and practical application. They should clearly define, first, what must constitute the minimum of general education required to qualify the student to commence the study of medicine; second, what branches shall constitute the minimum field of medicine to be studied and mastered; third, what shall be the minimum length of time that shall be devoted to the study of the branches named, and how much of it shall be spent in medical colleges and hospitals having certain specified facilities for teaching; and fourth, they should provide a State Board of competent Examiners, to determine whether the provisions of the law relating to these several particulars had been complied with, and to decide by direct examination, whether the candidate for admission or license to practice medicine, had the standard of actual qualifications which the law contemplated and the interests of the people required.

There should be no recognition by the laws, of medical sects or of different schools, nor any distinctions by the Board in the examination of students in relation to certain branches, but all should be examined alike and all required to have a full knowledge of each branch named in the law. Neither should the terms of the law nor the methods of examination by the Board, attempt any interference with the right of each candidate when licensed, to practice his profession in accordance with the dictates of his own judgment and conscience. The only legitimate object of government interference, is to secure for the people a supply of thoroughly educated medical men and women. In doing this it has no more right to make special provision for sects or parties in medicine, than in religion or law; nor is it in accordance with sound policy to debar any particular class of educated medical men from eligibility to appointment on the Boards of Examiners. If our readers will compare these views with the provisions of the proposed law in Ohio, they will readily see wherein we should regard several of those provisions as defective, and very liable to develop mischievous results.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

OBSERVATIONS FROM THE STUDY OF ONE HUNDRED AND FORTY-TWO CASES OF HYSTERO-TRACHELORRHAPHY.

BY CHARLES MEIGS WILSON, M.D.

(*Continued from last Number.*)

Though much has been written on this subject in the past few years, I trust a description of special instruments, a summary of the histories of 142 cases will not be amiss. In view of the exhaustive treatment the subject has received in the hands of many observers, I hesitate to report my own limited experience. One hundred and four of these cases occurred in the practice of Dr. E. Wilson, two in my own, and the balance I witnessed as assistant either in hospital or private practice. I regret that circumstances prevented me from obtaining a full history in all the cases. No one should hesitate in performing the operation, or be unable to recognize the lesion. Yet very frequently gynæcologists have sent to them either for an opinion or operation cases diagnosed as eroding ulcers, fungoid vegetations, cancer, etc., which, when the patient is properly examined, prove to be cases of laceration. The touch alone is sufficient to establish the existence of the lesion. If corroborative evidence be required, the patient should be placed in the knee-chest position, and the uterus exposed with a Sims speculum. For in this position if each everted lip be grasped with a tenaculum, by gentle manipulation the natural contour of the cervix can be restored. If this simple feat can be accomplished, the diagnosis is at once established. For in malignant disease, *ulcerations* of the os, etc., this cannot be done. Reeves Jackson considers this test infallible. Formerly many cases of laceration were comprehended under the generic term ulcer. But the description of the lesion and the operation by Dr. Emmet has settled forever the "well-worn controversy which so long divided medical opinion concerning the etiology and pathology of the so-called ulceration of the cervix uteri."

Often times useless and injurious applications are made to the cervix, because the gentlemen having the medical care of the cases do not understand that the cervix is torn. The old-fashioned tubular speculum is still too frequently used. It is now generally conceded that it is useless except where *harsh* treatment is to be applied to the cervix without injury to the vagina. The tubular speculum separates the already everted lips and makes the laceration assume a more angry appearance. Thus faulty methods of examination often obscure the diagnosis. Another difficulty with many physicians is that the symptoms of which the patient complains are too apt to be regarded as the expression of some malady in which the uterus is not involved, unless, indeed, they complain of some vaginal discharge, a condition rarely absent. Again, the train of symptoms which belong to laceration belong equally to many other uterine ailments, and nothing but a carefully conducted ex-

amination can demonstrate that such is the case. The anæmias, debility and other results of laceration, like the results of many other pathological conditions of the pelvic viscera, are often treated by a course of tonics, whilst the underlying cause of all the mischief goes on with its destructive work. When a woman consults a physician, complaining of any of the more marked symptoms, such as cranial, rectal, vesical or pelvic pain, a feeling of weight about the uterus, disordered menstruation, and leucorrhœal discharge, a vaginal examination should be considered an "imperative and essential prerequisite to treatment." The best of investigators is always at hand, namely, the index finger, which, says one of the masters of gynæcic surgery, "when properly educated and used to the full extent of its capability, there are hardly any of the pathological conditions of the pelvic organs in woman which can escape its detective powers." Simpson in England, and Gardner in this country, first called attention to lacerations of the cervix. Emmet, as he himself says in his book, accidentally discovered the lesion in 1862, and devised the operation for its relief. To him belongs the credit of revolutionizing gynæcic surgery. Parturition is the chief cause of the lesion. The pressure of the child's head alone, especially if it be a large one, upon the os, may even in a normal labor be sufficient to lacerate it. If the os be rigid, or as frequently happens, be both rigid and attenuated, the danger is, of course, increased. If the longitudinal and oblique fibres of the uterus have greater contractile force than the circular fibres of the lower segment of the uterus have expansive powers, the force of the contractions o the former exerted upon the fœtal body, which rests upon and is engaged with the latter, may lacerate them owing to their non-expansion. In premature labor, the circular fibres of the os not being ready for the dilatation necessary to permit the egress of the contents of the uterus may give way, *i. e.*, there may be sufficient irritation of the uterus to expel its contents by contracting the fundus, but not enough to expand the os. Meddlesome midwifery is a prime cause. By which term I mean, the practice of trying to force back from the presenting portion of the child the margin of the os, without waiting for it to dilate properly; the desire to expedite the labor in every possible way; the premature rupture of the membranes—the physician forgetting that nature's dilator, the "bag of waters," is the best of all. Experience teaches that all labors in which the membranes have been ruptured prematurely, either accidentally or purposely, are apt to be complicated by some laceration of the obstetric canal, especially of the cervix. Unnecessary and unscientific application of the forceps, and traction made with them without a proper knowledge of the pelvic canal and outlet is another factor. That the forceps are responsible for many cases of laceration there can be no doubt. When applied high up or within the uterus, they are exceedingly apt to produce tearing of the cervix. Observations made by Dr. Mundé at the Mt. Sinai Hospital, New York, showed 119 cases of laceration in 700 women examined.

Dr. Hanks, of the Demilt Hospital, found only eight per cent troubled with laceration. The Mt. Sinai is a Jewish institution and most of its patients Hebrews, these are generally attended by midwives. The Demilt is patronized by the poor of the city generally, and the patients are mostly attended by young graduates, who frequently use the forceps. As far as these observations go they show that the forceps even in inexperienced hands do not do as much to produce laceration, as the often untimely interference of ignorant midwifes. Prof. Gross, in one of the last papers he ever wrote, spoke of the frequency with which the forceps were applied, strongly condemning this practice and very justly attributing many of the cases of laceration of the cervix to it. He formulated his views in the words, "the principal causes of laceration are precipitate labor, labor attended with rigidity of the mouth of the womb and *instrumental* labor." Dr. Fundenberg, in an article which appeared in the Pittsburg *Medical Journal*, makes use of this positive language: "I believe that the forceps, when properly applied, is a preventive of laceration of the cervix. * * * * When carefully introduced, for instance, into a rigid os, dilated only sufficiently to receive a narrow blade, the waters being discharged, it preserves the cervix by its inclined plane, from sudden impulse, and imitating the bag of waters in its wedgelike and outward action, it dilates with great and continuous power, with any desirable amount of slowness, and with very great safety." In the 142 cases seen by the writer, the forceps had been used in 49—presumably from the account of the patients at the labor from which their distress dated. Did space permit I should like to quote from other papers in reference to this question. Suffice it to say that the maladroit use of the forceps is responsible for many cases of laceration. The breech presentation is another factor, because of the necessity of rapidly delivering the head. The cervix may also be torn by the shoulders after the head has passed safely through. The injurious practice of giving large and frequent doses of ergot prior to the expulsion of the fœtus is another cause—so too are abortions. The predisposing causes include the various forms of induration, whether caused by hyperplastic deposit or malignant disease; all affections of the cervix producing tissue softening, such as epithelioma; or any condition interfering with the natural elasticity of the part, as the cicatrices of previous surgical procedures, or as happened in two of the cases the writer saw of cauterizations, and any syphilitic or strumous taint giving the uterus lack of tone. Dr. E. Wilson lays great stress on the muscular depravity, the result of a constitutional syphilitic taint, and the consequent emaciated condition of os. This muscular degeneration may be the result of many pathological conditions. For example, anæmia, malnutrition, phthisis and the like.

Again, when the uterus is in a state of constant activity, owing to frequent gestation, it is liable to lose tone, and thus pave the way for the exciting cause to light up the trouble. Women are more apt to meet with this accident at the time of their first delivery than subsequently. It occurs also more frequently in rapid labors. Dr. Emmet believes that

partial laceration takes place at the first delivery. Dr. Goodell, Dr. Pallen and Dr. Mundé all record it as being exceedingly common. In 200 women with uterine disease examined by the writer, 19 had laceration of the cervix. The lacerations may extend through any portion of either lip. The writer has found the bilateral to be the most common—the rent being greater upon the left side—and laceration through the posterior lip the rarest form. The fact that a laceration has taken place is seldom noticed at the time of its occurrence. When an examination is made at the completion of the delivery, the parts are so enlarged, soft and yielding, and the os so patulous, that it is difficult to detect a laceration. But if a tear has occurred, the woman soon begins to complain of symptoms which are well nigh pathognomonic. Shortly after she rises from her bed and resumes her ordinary household duties, she notices a more or less constant and generally increasing leucorrhœal discharge. This discharge is thick, viscid and glairy, and sometimes tinged with blood. Sometimes, though rarely, this discharge is absent, or after a time disappears. Pain is a prominent symptom. It is generally of a dull and aching character. It is frequently referred to the lumbar region. Headache is a marked symptom. There is a peculiar sense of weight about the uterus, which is increased along with the pain after exertion. This feeling is augmented when the woman assumes the erect posture. The menstrual flow is, as a rule, increased. It is profuse, longer in duration, and comes on after shorter intervals. There is generally a nasty, glairy, and sometimes semi-purulent discharge during the catamenial intermission. My own observation has taught me that there is generally an increase in duration and amount. When the laceration is recent the increase is so small that it is hardly noticed, but as a rule it increases steadily until it sometimes assumes the character of a sudden and violent uterine hæmorrhage. Patients generally suffer with a feeling of malaise. The general health soon becomes impaired. The digestive system is often the first to suffer. Sexual appetite is usually impaired, sometimes abolished, its gratification always attended with great pain. Insomnia is often present, together with other symptoms of a nervous character.

The writer has seen one case in which hystero-epilepsy was a prominent symptom. The symptoms are usually commensurate with the extent of the eversion of lining membrane of the cervical canal. This membrane when thus exposed loses its delicate epithelial coat, and it chafes against the posterior wall of the vagina. This irritates and inflames the raw surfaces. Hypostatic congestion and engorgement ensue. This prevents proper involution of the uterus and the parts remain enlarged and soft. The heavy uterus inadequately sustained by its supports falls to the floor of the pelvis, dragging the upper portion of the vagina with it. This makes the cervix look elongated when in reality it is shortened. Sometimes cicatrization takes place, and often this plug of cicatricial tissue gives rise to symptoms more distressing than when the parts remain ununited. The mental symptoms are sometimes very grave, amounting to such a degree of mental perturbation as to threaten the sanity of the patient. One of Dr. E. Wilson's patients was for some months in an insane asylum. After her cervix was restored her symptoms gradually subsided and eventually in the space of six weeks entirely disappeared. This woman was deprived of her liberty because her friends refused to have the operation done. Another woman in his practice, a subject of melancholia with uterine symptoms, came very near being spayed. After her cervix was repaired her melancholia and other symptoms vanished entirely. A very curious case of persistent salivation apparently due to laceration, at all events which was cured by restoring the cervix, is reported by Dr. Longyear in vol. xvi, No. 1, of the *American Journal of Obstetrics*. Did space permit I might cite other interesting cases. If the foregoing views in reference to lacerations are correct the indications for treatment are certainly clear. Having decided to resort to surgical means for the relief of his patient, the surgeon must consider whether the patient is in a proper state of health to operate. The same conditions which militate against other surgical procedures are equally operative in cases of trachelorrhaphy, when the uterus is bound down by adhesions or severe inflammation exists, it is dangerous to operate. One case which came under my observation nearly perished from an attack of peritonitis because forcible traction was made to draw down to the ostium vagina a uterus which was fixed and immobile, owing to adhesions the result of a former attack of peritonitis.

For operating the patient should be placed in the dorsal position with her buttocks well drawn down to the edge of the table—an assistant taking charge of each limb. The cervix is exposed with a Sims speculum, grasped with a vulsella and gently brought to the ostium vagina. The needle figure one is passed through the cervix in the median line, from above downwards, it is then armed with a stout piece of silk cord and withdrawn. A blunt-pointed tenaculum is passed up the cervical canal until it engages the cord, a loop of which is withdrawn. This loop is divided and united to each free end, thus forming two loops, the one controlling the anterior, the other the posterior lip. The margins of the tear are now freshened, care being taken to extend the line of incision beyond the angle of the rent, and to cut out any cicatricial tissue that may be present. The hæmorrhage which is never very profuse, and which by depleting the vessels of the uterus, tends to ameliorate the inflammatory conditions often present, is easily controlled by the application of hot sponges. Any one who has seen many operations must have noticed the sudden blanching and softening of the cervix due to the bleeding attending the operation. The late Prof. Gross thought that the benefit of the operation was largely due to this local depletion. I have seen the circumflex artery cut on several occasions, but it never required a ligature to control it. Care should be taken to make the posterior angle of the plug of tissue removed sufficiently acute, to allow of the proper approximation of the lips without tension in the sutures. The lower lip should be denuded

first, otherwise the hæmorrhage will obscure the field. Sufficient mucous membrane should be preserved in the centre to reform the canal. This is not always possible, and when it can not be done, a small piece of carbolized lint should be inserted to prevent union in the line of the canal. This should be removed at the end of twenty-four hours. Otherwise the canal may be occluded. This accident happened in three of the cases of Dr. E. Wilson's series, and the occlusion was overcome with some difficulty. All clots having been removed, and exact hæmostasis having been maintained for some moments, the wound is closed by inserting the needle figure two through both lips, arming it with a wire suture, withdrawing it, freeing the wire, and clamping it with a shot. The ends are then cut off close to the spot. The sutures should be removed by the tenth day—as they are difficult to get at these scissors were devised for that purpose. The vagina should be syringed twice daily with a solution of the mercuric bichloride 1-2000. A Sims speculum should be used to remove the stitches, as there is danger of tearing the freshly united surfaces apart with a bivalve. In three cases I have seen excessive bleeding, all occurring on the third day after the operations. This, however, did not seem to come from the wound, but was regarded as the result of a passive congestion of the endometrium. If the operation is successful, the relief afforded is speedy and sure, and what is more, generally permanent. The operation is simple and free from danger. It often renders sterile women capable of childbearing.

Dr. E. Wilson has confined ten women in whom he had previously performed the operation. In two there was a slight recurrence of the tears. In many cases where coitus was impossible on account of the pain and hæmorrhage it produced, the difficulty has been entirely overcome. In one case only did the operator fail to get a satisfactory result. The cervix was badly torn. It was repaired. The woman was afterwards found to have salpingitis. Though her health improved after the restoration of the cervix, she did not recover. In a future communication to the Society, I hope to show her Fallopian tubes. Allowed to run its course, the sequelæ of laceration are endless—disturbances of the catamenia, dyspareunia, ovaritis, leucorrhœa, subinvolution, grave mental disturbances, and above all epithelioma. In conclusion, gentlemen, permit me to quote the words of a distinguished gynæcologist, "these are no longer the chimeras and hobbies of the specialist, but grave and serious dangers." It is to be hoped that in time to come, a more scientific and certain knowledge of the dangers and difficulties of parturition and the means for their avoidance may enable physicians to avert the accident.

Dr. Baer inquired if the operations were done for the relief of sterility.

Dr. Wilson replied that they were for the relief of general symptoms. Ten of Dr. Ellwood Wilson's cases have since become pregnant.

Dr. Goodell remarked that he had no trouble in removing the stitches. His method was to leave the two lateral upper stitches with long shotted ends; by means of these each side of the cervix can be drawn into the field of his bivalve speculum and the stitches removed with ease.

Dr. Montgomery bore testimony to the same and to the value of the bivalve speculum over the Sims for that purpose. He had used the double thread through the cervix and had described its uses before this Society at the meeting of Oct. 6, 1881, and published in full in the *Obstetric Gazette*, January, 1882. As regards the quantity of tissue to be removed in closing a laceration, the operator must be governed by the character of the injury, and it might not be possible to have a satisfactory result where there was an anteversion of the uterus, the flexion occurring in the lower part of the cervix, the anterior lip being elongated and hypertrophied, the posterior normal or even atrophied, for in such cases it was impossible to prevent the preponderance of tissue in the enlarged lip. He could readily understand that such a uterus becoming pregnant, at the subsequent labor the long anterior lip would form a segment over the child's head, which would almost certainly result in relaceration.

In the case which Dr. Wilson cites of extensive laceration during labor, the proper treatment would have been to perform a primary operation by the immediate introduction of sutures rather than permit her to be subjected to the necessity of a secondary operation. It would be necessary to introduce the sutures much deeper, and then to make allowance for the subsequent involution.

It is not infrequent that multiple lacerations resemble epitheliomatous disease, and are accompanied by offensive discharge. He had given temporary relief in such a case by the use of chromic acid and tannin locally. The needle used in passing sutures should not be much larger than the wire that is to follow it.

Dr. Wilson questioned the propriety of primary operations on the cervix, and thought the weight of authority against it.

Dr. Montgomery remarked that the first case by Montrose Pallen was a primary operation, and was successful.

Dr. Chas. H. Thomas remarked that at the meeting of this Society held Oct. 6, 1881, he had reported a case of *Laceration of the cervix uteri simulating cauliflower excrescence*, which he had treated 18 years before. The patient was exsanguine from hæmorrhage, which had put her life in great danger. He used glycerole of tannin tampons, and at the end of two weeks she had improved immensely, and the condition finally proved to be a deep laceration with ectropion. Before the treatment she had been seen by six experienced gynæcologists, who declared the condition cancerous, and one of them refused to be convinced that it was not so, saying, within the past four years, that "it had been cancer, it was cancer, and she would die of cancer." When the case was reported, another of the physicians who had originally seen the case inquired of Dr. Thomas if he "proposed to cure uterine cancer by means of glycerole of tannin tampons?" The menopause has since been established, the uterus, examined within the past month, was found atrophied, and the former patient

has been for nearly 20 years a hard-working monthly nurse.

Dr. Goodell thinks it pardonable to make the mistake. With all his experience he had seen two cases which he could not for some time make a certain diagnosis. There was no doubt about the existence of a laceration, but whether the angry looking growths were merely cock's-comb granulations or epithelioma was not so easy to decide. They eventually proved to be the benign.

EYE SYMPTOMS AND CONDITIONS IN BRIGHT'S DISEASE.

BY WM. S. LITTLE, M.D., OF PHILADELPHIA.

Read December 19, 1883. to the Philadelphia County Medical Society.

Among 911 cases of Bright's disease reported by different observers, changes in the retina have been observed to be associated with the kidney affection in 185 of these recorded cases; these statistics show that 25 per cent. of the cases of Bright's disease have internal eye symptoms. The statistics have varied with the several observers; the lowest average exhibiting retinitis present in 11·46 per cent., the highest in 30·15 per cent. of the cases of Bright's disease. A more exact and larger average than 20 per cent. can only be derived from a study of a larger number of cases of Bright's disease with retinitis than have as yet been recorded. The known average of 20 per cent. is sufficient to stimulate observations, and enables us to include eye symptoms among the other various manifestations of the disease under consideration, as they are exhibited hy symptoms arising in other important organs and tissues of the body. The recognition of Bright's disease from lesions in the eye, in a case already diagnosed from symptoms in other organs, is not of so much importance for diagnosis, as it is a help in forming a prognosis; nor does the condition existing in the eye demand the therapeutics of special medicine.

A sufficient number of cases, however, are seen in an ophthalmic hospital, having no other symptom of Bright's disease apparent than impaired vision, which the ophthalmoscope shows is due to changes in the retina or of the nerve from disease of the kidney, or it is revealed in cases where vision is good, other ocular conditions being treated, so that in this class of cases the recognition of the lesion becomes important as a means of diagnosis.

The ophthalmic physician will diagnose Bright's disease by means of the ophthalmoscope, almost as frequently among the cases he is called to treat, as the lesion will be found to exist in cases where the eye is thus examined, for additional evidence in already diagnosed cases.

As a pathological change can be seen in the eye-ground during life, as cannot be so well viewed in other parts of the body, the observation of the lesions associated with Bright's disease, or of other diseases, as they are exhibited in the eye, is very interesting and instructive.

Externally, the puffy lower lid is the only symptom, and before Bright's time, it was the first evidence of a more general anasarca, and it was looked upon as a symptom of dropsy, before the kidney was known to be the organ producing the condition. In very rare cases exophthalmus occurs from hæmorrhage into the capsule of Tenon, due to the breaking down of the orbital vessels or an excess of serum in the orbit.

With dropsy after scarlet fever, as well as that accompanying the act of gestation and the puerperal state in women, some internal affection of the eye, imparing the vision, was known to exist, the same as was later known to be present in dropsy associated with kidney disease, from other causes, in both sexes alike.

The optic nerve is not seriously involved, though gray degeneration may exist, and numerous amyloid bodies may be seen with the microscope. The retina does not always present all the stages described; the kidney disease being amenable to treatment, the retina may not undergo any further change; where it is chronic, a like progression ensues in the retina. Marked lesions at times disappear, leaving only a slight trace. The hæmorrhagic state is more severe, the sight not only being lost, but the patient's life endangered.

During gestation the same picture exists, the optic nerve may be more seriously involved. A case recently seen, and having uræmic symptoms, being unconscious two weeks prior to the delivery of the child, it being born dead; had complete atrophy of one optic nerve with retinal lesions extensive; the other nerve partially affected and slight retinal changes, patient almost entirely blind. In another case, with convulsions, only slight changes in each eye near the fovea. In succeeding pregnancies, the conditions may arise again, producing more serious changes in the retina.

The prognosis, as far as the vision is concerned, is serious, when the region of the yellow spot is encroached upon, and yet fair vision may remain after subsidence of the disease.

Can a prognosis as to the duration of the disease or to its fatality be derived from the eye symptoms? Only in the chronic stages of the disease, when retinal hæmorrhages are extensive and repeated, the heart being diseased. Traube considered the heart the immediate cause of these retinal hæmorrhages; but they exist in cases without heart trouble, and in other diseases of the system, and in intraocular conditions. Brain symptoms soon follow in these severe types of retinitis, in chronic kidney disease a general hæmorrhagic condition being developed, or uræmia may ensue. In the acute forms of Bright's disease no prognosis of any value can be formed from the eye symptoms, though severe.

As to treatment of the eye in this disease; what renders the disease of the kidney controllable, is only of advantage to the retina; leeching may be useful if the patient is not too anæmic. For the vitreous opacities, in cases where the disease is under control and the acute condition of the eye abated, electricity is of considerable value, much more so than any plan of medication.

The microscope shows a sclerosis of the retinal fibres, the walls of the blood-vessels degenerated, fatty deposits along the fibres and in the layers of the retina, also in places a pigmentation; the choroidal vessels are implicated as well.

Uræmic amaurosis is rare, Wagner finding one case in 153 of Bright's disease. Graeffe found two cases in thirty-two cases of albuminuric retinitis; it presents no retinal change that is recognizable.

As yet we cannot answer why the retinal changes occur with disease of the kidney. Does the structure of the retina and its proximity to a highly vascular tissue account for it?

215 South 17th St.

INTERNATIONAL MEDICAL CONGRESS OF 1887.

The general committee appointed on the organization of the International Medical Congress to meet in Washington in 1887, is composed of the following members:

Dr. George C. Shattuck,.....Boston.
Dr. James R. Chadwick,..... "
Dr. Austin Flint, Sr.,.....New York.
Dr. L. A. Sayre,..... "
Dr. A. Jacobi,..... "
Dr. T. F. Rochester,.....Buffalo, N. Y.
Dr. S. Weir Mitchell,.....Philadelphia.
Dr. J. M. DaCosta,..... "
Dr. Christopher Johnston,.....Baltimore.
Dr. W. C. Van Bibber,..... "
Dr. S. C Busey,.....Washington.
Dr. R. A. Kinloch,.....Charleston.
Dr. H. F. Campbell,.....Augusta, Ga.
Dr. J. G. Thomas,.....Savannah, Ga.
Dr. T. G. Richardson.....New Orleans.
Dr. W. W. Dawson,.....Cincinnati.
Dr. D. W. Yandell,.....Louisville.
Dr. N. S. Davis,.....Chicago.
Dr. Hosmer A. Johnson,..... "
Dr. George J. Englemann,....St. Louis.
Dr. L. C. Lane,.....San Francisco.
Dr. John S. Billings,.....United States Army.
Dr. J. M. Browne,.....United States Navy.
Dr. R. P. Howard,.....Montreal, Canada.

Chairman *pro tem.*, Dr. Flint.
Secretary " " Dr. Billings.

STATE MEDICINE.

AN ACT

To Establish a Medical Board of Examiners and Licensers, and Regulating the Practice of Medicine and Surgery in the State of Ohio, and Defining the Duties and Powers of such Board.

SEC. 1. *Be it enacted by the General Assembly of the State of Ohio,* That there shall be appointed by the Governor a State Board of Medical Examiners in this State, consisting of nine reputable physicians, who shall be graduates of legal Medical Colleges, and who have practiced medicine or surgery for not less than ten years, but none of whom shall be connected in any manner with any Medical School or College; provided, that in the appointment the several systems of medical practice recognized by the three State medical societies shall be in proper proportion.

SEC. 2. Of the nine members of said Board, three shall serve, in the first instance for three years, three for four years, and three for five years. This period of service shall be determined by lot. All appointments made in said Board of Examiners, at the expiration of the several terms fixed above, shall be uniformly made for the period of five years each. All appointments shall be made, and all vacancies occurring in said Board, from whatever cause, shall be filled without delay, by the Governor, from fifteen persons nominated by each of the several State Medical Societies, (in case such nomination shall be made) of a practitioner of the system of practice that had previously been represented by the seat so vacated.

SEC. 3. The persons so appointed shall take the oath of office prescribed by the seventh Section of the fifteenth Article of the Constitution of the State, before entering upon the duties of their office, and file a certificate of their having done so with the Secretary of State.

SEC. 4. The said Board shall, on a day to be fixed by them, in every two years, elect from their own number a President and Secretary, who shall hold their offices for the term of two years, and until their successors are appointed or elected, and enter upon the duties of their offices. The said Board shall be a corporation, by the name and style of "State Board of Medical Examiners and Licensers of Ohio," and have and use a common seal, and as such corporation may sue and be sued, contract and be contracted with, plead and be impleaded, to the extent to enable it to carry out the powers conferred upon said Board by said Act. Said Board may make and adopt all necessary rules and regulations and by-laws, not inconsistent with the Constitution and laws of this State or of the United States, to enable it to perform its duties and transact its business under the provisions of this act. A majority of said Board shall constitute a quorum for the transaction of business. A meeting of the Board may be called by the President or any three members thereof.

SEC. 5. The said Medical Board shall examine all applicants for license to practice medicine or surgery in this State. They shall meet quarterly, on the second Tuesday in January, April, July and October, and at such meetings shall faithfully examine all candidates referred to them for that purpose by the President of said Board, and the Secretary shall keep a detailed report in writing of all questions and answers of each examination, together with a separate opinion of each examiner as to the qualifications and merits of the candidate in each case. The examinations shall be conducted in writing, except clinical, which may be oral; the President and Secretary of the Board shall have authority to administer oaths, and the Board to take testimony in all matters relating to its duties.

SEC. 6. Such examination shall be in hygiene, anatomy, physiology, histology, pathology, principles and practice of medicine, chemistry, surgery, obstetrics, materia medica and therapeutics, and such

other branches in the several departments of medical science as said Board may agree upon. The question forming such examination shall be the same for each class of candidates offering themselves, with the exception of principles and practice of medicine and therapeutics, in which branches the question for each candidate shall be prepared by the representative in the Board of Examiners of the system of practice to which such candidates wish to be licensed.

SEC. 7. The said reports and action of the examiners shall forever be a part of the public records of said Board.

SEC. 8. Any person, on paying $25 into the treasury of the State of Ohio, and on presenting a receipt for the same to, and applying to the Secretary of the Board for the aforesaid examination, shall receive an order addressed to the aforesaid Medical Board, instructing them to examine the candidate at the next quarterly examination, providing proof satisfactory to the President is first given, that the candidate is over 21 years of age, of good moral character, and has received a diploma issued to him or her, conferring on him or her the degree of doctor of medine, from some legally incorporated medical college held to be in good standing by said Medical Board; and should any candidate fail, he shall have the privilege of appearing again before the Board, at the next meeting, without any additional fee.

SEC. 9. The President and Secretary of said Board, after finding that seven members of said Board have voted in favor of such candidate, shall issue to him or her a license to practice medicine and surgery in the State of Ohio.

Said Medical Board may refuse to recommend a license to individuals guilty of unprofessional or dishonorable conduct, and they may revoke a license for like cause, upon a unanimous vote, after giving the accused an opportunity to be heard in his or her defense.

SEC. 10. The Medical Board shall establish rules and regulations as they may deem necessary to insure the faithful execution of this Act.

SEC. 11. On or before the first day of July, A. D. 1885, every person who is a graduate of a reputable Medical College, or legal practitioner, or has complied with Sections eight and nine of this Act, shall, before continuing or commencing to practice, register in the Probate Judge's office, in a book kept by said Judge for such purpose, where he or she practices or intends to practice medicine or surgery, his or her name, residence and place and date of birth, together with the date of his or her diploma, and by what institution granted, with his or her license to practice medicine or surgery within this State; at the same time the person registering (unless a graduate in medicine and surgery of some reputable Medical School or College, or legal practitioner practicing medicine or surgery at the time of the passage of this Act, within the State of Ohio), shall exhibit both license and diploma herein required to the Probate Judge, and all persons shall subscribe and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of this State, an affidavit containing a plain statement of all the facts as aforesaid, including his or her age, and shall file said affidavit and copy of said diploma with said Probate Judge. The person so registering shall pay to the Probate Judge one dollar, of which sum the said Probate Judge shall receive fifty cents for such registration and other duties prescribed in this Chapter, and the remaining fifty cents shall be paid over by said Judge to the Treasurer of the State of Ohio, within thirty days after its receipt, for the benefit of the Medical Board. Every graduate in medicine and surgery of any reputable medical school or legal practitioner in this State, at the time of the passage of this Act, shall register and comply with all the requirements of this Chapter, except producing a license from the State Board, and every person desiring to practice medicine or surgery after the passage of this Act, who is not a graduate in medicine or surgery of some reputable Medical School, or a legal practitioner practicing medicinc or surgery in this State, at the time of its passage, must appear before the Medical Board of Examiners and obtain a license, as is provided in Sections eight and nine of this Act. Nothing in this Act shall be so construed as to prohibit medical consultation in different counties in the State, between legally qualified and registered physicians of this and any other State.

SEC. 12. A person who shall wilfully swear falsely to any statement contained in the affidavit required by Section eleven of this Act, shall be deemed guilty of and subject to conviction and punishment for perjury, and any person or persons who violate any other of the provisions of this Act, or who shall practice medicine or surgery in this State under cover of a diploma or certificate unlawfully issued and illegally obtained, or without a license, as provided for in this Act, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than $100 nor more than $500 for the first offense, and for each subsequent offense by a fine as aforesaid, and by imprisonment not less than thirty days nor more than one year in the county jail, or both. The fine, when collected, shall be paid to the Treasurer of the State for the benefit of the Medical Board.

SEC. 13. For the purpose of this Act, the words "practice medicine or surgery" shall mean to annex the letters M.D. to one's name, or to suggest, recommend, prescribe, direct or employ, as a matter of business, or for a fee, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material, for the treatment, cure, relief or palliation of any real or supposed ailment or disease of mind or body, or for the treatment, cure or relief of any wound, fracture or bodily injury or infirmity, or deformity. And for the purpose of this Act, the words legal practitioner shall mean one who has been reputably engaged in the practice of medicine or surgery in this State for ten consecutive years last past, at the time of the passage of this Act.

SEC. 14. The money paid into the State Treasury under the provisions of this Chapter, shall be appropriated for and assist in defraying the expenses incurred under the provisions of this act.

SEC. 15. Nothing in this act shall apply to com-

missioned medical officers of the United States Army or Navy, or of the U. S. Marine Hospital Service, nor to any members of the house-staff of any legally incorporated hospital during their term of service as such.

SEC. 16. Annually, on or before the fifteenth day of September, every Probate Judge in the State shall furnish a certified copy of the names, address and residence, place of business, and by what authority they are permitted to practice, of all persons practicing medicine or surgery in his county, not previously reported, to the Secretary of the Medical Board, and said Secretary shall record the same in a book to be kept by him for that purpose.

SEC. 17. The Medical Board shall have the power to strike the name of any practitioner of medicine or surgery, guilty of unprofessional or dishonorable conduct, from the registry list, and to refuse to allow his name to be recorded or to practice medicine or surgery in this State, upon unanimous vote, after giving the accused an opportunity to be heard in his defense.

SEC. 18. The Secretary shall receive a salary to be fixed by the Board. The other members of said Board shall each receive $10 per day and necessary expenses, for each day actually and necessarily employed by them in the discharge of the duties of their office. The State Board shall audit all bills made out in due form and verified by the member rendering the service or incurring the expense of traveling in the performance of the duties of his office. Such bills, when approved by the Governor, shall be paid out of the State Treasury.

SEC. 19. The Governor shall remove any member of the Board for unprofessional or dishonorable conduct, upon the recommendation of two-thirds vote of the Board.

SEC. 20. The sum of $1,000 per annum, or so much thereof as may be deemed necessary by the Board, is hereby appropriated to meet the necessary and legitimate expenses of the Board, should the fund raised by the provisions of this act not be sufficient to meet such expenses.

SEC. 21. No part of this act shall be considered as applying to those practicing dental surgery or dentistry.

SEC. 22. The Adjutant-General shall procure suitable room for the use of the Board at Columbus.

SEC. 23. All other acts or parts of acts inconsistent with this act are hereby repealed.

SEC. 24. This act shall take effect July 1, A. D. 1885.

FOREIGN CORRESPONDENCE.

LONDON LETTER.

LONDON, October, 1884.

The results of the conference of the Red Cross Associations held at Geneva have, according to Surgeon-General Longmore, given satisfaction to the members who attended it. Amongst the matters discussed was the employment of the electric light for searching for the dead and wounded on the battle field. Baron Mundy, basing his remarks upon the experiments made at Wichen in October, 1883, and at Aldershot in July last, as well as those undertaken near Geneva during the conference—which have confirmed the practicability of clearing the field of the wounded during the night following a great battle, and burying the dead after establishing their identity, expressed the hope that in future wars the electric light would be employed in all cases in which military commanders permitted its use. The questions "Shall the Associations acquire during peace the articles and apparatus required in war," and "Is it necessary that the drawings and documents referring to ambulance material should be exchanged between the central committees?" was postponed to the next conference which is to take place in two years, with a view of its being examined by the central committees, as well as one dealing with the principles which should be observed in reports and communications of the central committees.

The influence of emigration in spreading disease has lately been under the careful attention of the Local Government Board. The report of their medical officer, Dr. Blaxall, is of a very exhaustive character. His inquiries took place during the year 1882, the immediate occasion of them being the representations from the United States to the effect that small-pox was believed to have been imported into that country by immigrants from Europe. The question having thus been opened up proved to contain several points of a character at once important and intricate. The tremendous growth of emigration has brought with it a train of sanitary consequences, whose relation to the health of the general community has been somewhat overlooked. During the five years from 1876 to 1881 upwards of 1,300,000 emigrants left the British Isles. This, it must be remembered, they did in large batches, between whom during their period of travel the closest intercourse necessarily existed. In fact it may be said generally that emigration on a large scale is a system containing in itself every element favorable to the spread of infectious disease, the only wonder is that more cases of infection are not distinctly traceable to their movements. That this is not the case shows how much has been done by organized medical inspection. Dr. Blaxall has come to the conclusion that the amount of disease exported by emigrants from the British Isles can not be reckoned as large when the exceptional conditions of the people are taken into account. The report as a whole goes to show that there are still some very desirable improvements which are lacking. The chief of the evils which are distinctly remediable would appear to be the lack of organized relation between the shipping companies and the sanitary authorities. Nor does the system of sanitary inspection of lodgings by the shipping companies appear to be uniformly satisfactory. It appears that there are moments in the emigrant's career when he may not be directly amenable to the local sanitary authorities and when the precautions of the shipping companies are not necessarily adequate. In such cases a consolidation of power appears to be required. Another point on which there is room for

improvement seems to lie in the imperfect sanitary condition of many of the foreign lines of steamers which land immigrants on British shores. Indeed, it is in these cases Dr. Blaxall finds the greatest cause for dissatisfaction. An immense number of foreigners, chiefly Germans, Poles, Russians, Jews and Scandinavians enter England or Scotland for the purpose of reëmbarking for the United States or Canada. These transmigrants are shipped from their own country under a variety of regulations, which lead to considerable complication. The vaccination laws of Sweden only apply to children over two years of age, thus all the precautions taken against the spread of this disease at English ports may be neutralized by the importation of small-pox through the infant of some foreign transmigrant. It must be said, on the other hand, that one frequent source of infection is largely cut off which exists in the case of the ordinary British emigrant. That is the supervision of his lodging, which is arranged by the shipping companies, who have regular houses under strict supervision where the transmigrants are quartered pending the departure of the ocean steamer. In the case of the emigrant there is no such arrangement, and unless he have friends at the port whence he sails, he is usually compelled to find quarters for himself for one night at least, and it may be surmised that latent disease is frequently introduced into the emigrant ships through this cause. Prior to embarkation the emigrants are subjected to strict medical examination at the hands of officers appointed by the Board of Trade. The smallest signs of disease are looked into most minutely, and the condition of the children is particularly ascertained. So far as embarkation from the English ports is concerned, the report leaves one with the impression that autho ity is at least on the high road to perfectly satisfactory regulations. The Local Government Board state that since this inquiry several improvements have been made at more than one English port. The spread of disease in this manner is, after all, not absolutely preventable. Latent cases will of course pass the strictest scrutiny from time to time. With the terrible evidences of the cholera now before us, it is to be hoped that the Local Government Board and the Board of Trade will continue the work of practical inquiry which they have commenced.

The application of pyrogallic acid in phagedenic chancre is a new treatment, which consists in dressing the sore with an ointment of vaseline and pyrogallic acid, (four parts vaseline, one part pyrogallic acid). This form is not adapted to the treatment of superficial ulcers without deep sinuses. In the latter condition a powder consisting of pyrogallic acid and powdered starch (1–4) should be dusted into all parts of the ulceration. For general use the following formula is useful: Pyrogallic acid, 10 drachms; vaseline 4 ounces; starch, 10 drachms. The dressing must be renewed daily. At the Vienna Hospital, however, the employment of pyrogallic acid in the treatment of skin diseases was attended with fatal results, due to the deoxidizing action of the pyrogallic acid upon the blood-corpuscles. So it must be necessary to use care in its use.

Sir Prescott Hewitt takes the late Mr. Cæsar Hawkins' place as one of Her Majesty's sergeant-surgeons-in-ordinary.

One of the best collections of Wedgwood in the country—namely, that belonging to Dr. Shadford Walker, of Liverpool, the well-known oculist—will be sold at auction next March in London. Dr. Walker, over and above his professional achievements, is noted for three special tasks or hobbies—first for his china, secondly for his illuminated MSS. and thirdly, for his successful cultivation of orchids in the very heart of a smoky city.

G. O. M.

DOMESTIC CORRESPONDENCE.

BIOGRAPHICAL SKETCH OF PROFESSOR P. L. PANUM., M.D.,

President of the Eighth International Medical Congress held at Copenhagen, Denmark, 1884, in the month of August, beginning on the 10th and and ending on the 16th.

Professor Peter Ludwig Panum was born on the 19th of December, 1820, in a small town called Ronne, on the Danish island Bornholm, in the Baltic Sea, where his father was a physician.

In the year 1840 young Panum was sent to the University of Kiel, and from there went to the University of Copenhagen, where he in 1845 took his degree. As a student he already lectured with great success, and in consequence of his deep devotion to the study of the physiological branches of the science, he commanded universal attention. In 1846 when almost the whole population of the Faroe islands was suffering from the measles, Panum went thither by order of the Danish government, and during his six months' sojourn in that far away place, succeeded in gaining a reputation as a superior and remarkably energetic young man, and made several interesting discoveries in the contagious venom of the measles. Shortly after returning home he went to Berlin, but on the outbreak of the war he again returned to Copenhagen, and was appointed surgeon on board the man of war "Geiser," where he discharged his duties as a brave officer. It is characteristic that Panum never rested in his youth and wanted to be everywhere at once, to take an active part in all affairs of medical interest. When the cholera epidemic in 1850 was ravaging Denmark, he visited all the worst attacked places, and had good opportunities to study that frightful disease; the following year Panum took the Medical-Doctor degree and then went to Paris, where he studied a year under the eminent physiologist, Claude Bernard.

When he returned home he was appointed to the professorship in physiology at the University of Kiel, where he was greatly admired for his scientific endeavors and strong sense of justice, and beloved for his amiability; he was a rare conscientious teacher, and devoted to his profession. He succeeded in filling his pupils with that same enthusiasm that he himself displayed, and brought them not to work mechanically but to throw their whole souls into the

study, for he sincerely believed in the old saying that "when a thing is worth doing at all, it is worth doing well." Though he was quite a young man, he had gained a name through all the important and interesting results of his studies, and from his very youth had been renowned, honored and respected as one of the most prominent physiologists of the day. But through all his career he never once allowed himself to be carried away with his success, neither has he ever, in public or private life, made a display of his accomplishments; has always been and still remains the quiet and unassuming gentleman, the skilful physician and the sober examiner.

It was more particularly in chemical physiology that Panum from boyhood upwards took so great an interest, "the study of the phenomena of the manifestations of life," laws and causes regarding both animals and plants, and above all the human being. In order to acquire the secrets of the manifestations of life the physiologist must first thoroughly understand the building of the system and of each of the special organs, he must also have a thorough knowledge of physics, chemistry and anatomy. Panum has perfected himself in each, and all combined make him the great physiologist he is. It is a grand and noble science to which the professor has devoted his life, a science that interests the whole civilized world. The Congress at Copenhagen proved it. The professor has never once given in, but with persevering energy has always carried his investigations through; when he once has undertaken anything he is sure to do it and to succeed. His great interest in the late Congress was beyond doubt one of the main causes of its success, for he never does a thing in halves.

Sir James Paget, President of the Seventh International Medical Congress, said: We thought the London Congress grand, but this is yet grander, and the most successful ever held. It is characteristic of Panum, and shows his profound physiological interest, that although a professorship at the Copenhagen University from his youth, had been his greatest ambition, he would, when it was offered to him, accept it only on the condition that a physiological laboratory was erected there, and remained in Kiel until he received consent to build one. As leader of this institution he has had a great influence on medical science, and being a strong and hearty man, he will undoubtedly have still more in years to come, using his great faculties for the benefit of humanity.

In a few short sketches, Professor Panum is a loving husband and father, an honored and true man of science, and an amiable colleague and host. He is a member of several scientific societies, and is decorated with the Cross, "Commander of Dannebrog," etc., etc. In 1887 the Professor will visit the United States of America, and cede the presidential dignity to one of his American colleagues. When Dr. Billings, in the name of the American physicians, brought that most cordial invitation, and Washington was proposed as the place for the meeting of the Ninth International Medical Congress in 1887, and enthusiastically accepted, Professor Panum's last words were:

Au revoir, my friends. We meet again in Washington, on the other hemisphere.

TO ALL THE PHYSICIANS OF THE UNITED STATES OF AMERICA,

and especially to those who honored the Copenhagen "International Medical Congress" with their presence,

this Biography is respectfully dedicated,

by the Author,

OTTO HAUBERG-KNUDSEN.

BOOK REVIEWS.

THE NATIONAL DISPENSATORY, Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines. Including those Recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with Numerous References to the French Codex. By ALFRED STILLE, M.D., LL.D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and JOHN M. MAISCH, Ph.D., Professor of Materia Medica and Botany of the Philadelphia College of Pharmacy. Third Edition, Thoroughly Revised, with Numerous Additions. With 311 Illustrations. Philadelphia: Henry C. Lea's Son & Co. 1884.

This ponderous volume of 1755 pages, is published in the usually good style of the well-known publishing house of Henry C. Lea's Son & Co. The two former editions have made the general merits of the work so well known that an extended notice of this edition is unnecessary.

The present edition bears all the marks of a careful and full revision, in which the latest revision of the several national pharmacopœias has been rendered available. More than 100 pages of additional matter have been added to this edition of the work, making it perhaps as complete and valuable as any work of the kind in the English language. From Jansen, McClurg & Co., Chicago.

DISEASES OF THE THROAT AND NOSE, by MORELL MACKENZIE, M.D. London: 1884. P. Blakiston, Son & Co. Philadelphia. Volume II. Diseases of the Œsophagus, Nose, and Naso-pharynx.

The first volume of this work, which appeared several years ago, is already so well known to the profession that it is unnecessary to commend the present volume.

We may merely state that it treats of the diseases of the œsophagus, nose and naso-pharynx in the same terse and lucid style which characterizes other works by the same author, and in the comprehensive manner observed in the first volume of the present work. Those who have the first volume have been anxiously waiting for the second, and physicians who are not familiar with the first, may rest assured that in this work they will find one of the most satisfactory treatises that has appeared on any special subject for many years. E. F. I.

THE LOCK-JAW OF INFANTS (TRISMUS NASCENTIUM) OR NINE-DAY FITS, CRYING SPASMS, ETC.; ITS HISTORY, CAUSE, PREVENTION AND CURE. By G. T. HARTIGAN, M.D. Washington, D. C.: 1884. Cloth, 123 pp.

This little volume is the result of the observation and record of 49 cases of spasm in infants. The author's conclusion is that this symptom is the result of pressure caused by the displacement of either the occipital or parietal bones, and that the cure for the disorder is the replacement of these structures either by operation, manipulation, or simple attention to the position of the patient.

He demonstrates that such pressure may be mischievous or possibly fatal, but it would appear that his enthusiasm had carried him a little too far, for in the infant, irritation from many sources may produce convulsions, and certainly the histories given do not warrant the assumption that all other causes than cranial displacements can be eliminated.

Lusk states that a displacement of the occipital bone is a usual consequence of labor, and our author is again weak in the fact that he has not demonstrated by the examination of healthy children that the very slight displacements observed are abnormal.

STUDENT'S MANUAL OF ELECTRO-THERAPEUTICS. By R. W. AMIDON, A.M., M.D. New York: G. P. Putnam's Sons. 1884. Cloth, 93 pp.

The book embodies the lectures delivered in the course on therapeutics at the Woman's Medical College of the New York Infirmary. The author carries out the plan of his work so successfully that a quotation from the preface is the best possible review.

Of the use of electricity he says: "Its showiness, its instantaneous and startling physiological effects, and its name, popularly synonymous with life, have long made and will long continue to make it a fashionable remedy, a cure-all for imaginary diseases, a popular placebo, a gold mine for charlatans and symptom-treating physicians, who let their patients make the diagnosis and suggest the treatment."

In mitigation of these evils the aim of the writer has been, first, to present that amount of the subject of electro-physics necessary to the proper understanding of the construction and use of medical batteries; second, to point out the common, gross physiological effects of electricity; third, to outline the methods of electro-diagnosis; fourth, to determine the kind of electricity and its mode of application indicated in different pathological states.

SHAKESPEARE AS A PHYSICIAN. Comprising every word in any way relating to medicine, surgery or obstetrics, found in the complete works of that writer, with criticisms and comparison of the same with the medical thought of the present day. By G. PORTMAN CHESNEY, M.D. G. H. Chambers & Co. St. Louis. 1884. Cloth, 226 pages.

This volume is published in good style. To those who are familiar with the writings of Shakespeare and admire them, the book should possess much interest, as the comments and interpretations of the author are calculated to develop more fully the meaning of the text. Those who have time and a taste for looking up the curiosities of medical literature will also find much in this volume to interest them.

MISCELLANEOUS.

OFFICIAL NOTICE.

ANNUAL DUES from members of the Association—*Five Dollars* per annum—are payable directly to the Treasurer. Such payment entitles them to receive the JOURNAL of the Association for one year.

SUBSCRIPTIONS TO THE JOURNAL from those who are not members should be forwarded to the office of publication, Chicago.

BACK VOLUMES OF THE TRANSACTIONS may be procured, at reduced rates, by addressing the Treasurer.

THE INDEX to the 33 Volumes of Transactions will be forwarded, postpaid, on receipt of *One Dollar* by the Treasurer.

According to a resolution passed May 9, 1884, at the Washington meeting, continuous payment of Annual Dues is required, to retain permanent membership.

RICHARD J. DUNGLISON, M.D.,
Treasurer.
Lock Box 1274, Philadelphia, Pa.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY, FROM OCTOBER 18, 1884, TO OCTOBER 24, 1884.

Wolverton, W. D., Major and Surgeon, granted one month's leave of absence, to take effect when his services can be spared by his post commander. (Par. 4, S. O. 211, Dept. East, Oct. 16, 1884.)

Vickery, R. S., Major and Surgeon, during temporary absence of Major J. C. McKee, Surgeon U. S. A., Middle Division of the Department, in addition to his other duties, will assume charge of the office of the Middle Division. (G. O. 34, Hdqrs Dept. Col., Oct. 8, 1884.)

Strong, Norton, First Lieutenant and Assistant-Surgeon, assigned to duty at Fort Union, N. M. (S. O. 198, Dept. Mo., Oct. 4. 1884.)

Phillips, Jno. L., First Lieutenant and Assistant-Surgeon, transferred from Dept. of the East to Dept. of Dakota. (S. O. 245, A. G. O., Oct. 18, 1884.)

Winne, C. K., Captain and Assistant-Surgeon, in addition to his duties as Post Surgeon at Benicia Bks., will also attend the sick at Benicia Arsenal, Cal. (S. O. 122, Hdqrs Dept. Cal, Oct. 13, 1884.)

Havard, Valery, Capt. and Assistant-Surgeon, assigned to temporary duty at Fort Schuyler, N. Y. Harbor, N. Y. (Par. 2, S. O. 211, Dept. East, Oct. 16, 1884.)

OFFICIAL LIST OF CHANGES IN MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING OCTOBER 25, 1884.

Bloodgood, Delavan, promoted to the grade of Medical Director, Aug. 22, 1884.

Oberly, Aaron S., promoted to the grade of Medical Inspector, March 28, 1884.

Wells, Henry M, promoted to the grade of Medical Inspector, Aug. 22, 1884.